

EXERCISE WITHOUT MOVEMENT



FUNCTIONAL ISOMETRIC CONTRACTION

system of static contraction

BY BOB HOFFMAN

WORLD FAMOUS U. S. OLYMPIC WEIGHT LIFTING COACH

[illegible]

EXERCISE WITHOUT MOVEMENT

**FUNCTIONAL
ISOMETRIC
CONTRACTION**

system of static contraction

BY BOB HOFFMAN

WORLD FAMOUS U. S. OLYMPIC WEIGHT LIFTING COACH

EXERCISE WITHOUT MOVEMENT

FUNCTIONAL

ISOMETRIC

CONTRACTION

FUNCTIONAL ISOMETRIC CONTRACTION

System Of Static Contraction

BY BOB HOFFMAN

1964
BOB HOFFMAN
Fort. Lauderdale

By the Same Author:

HOW TO BE STRONG, HEALTHY AND HAPPY

400 pages — 300 photos — many in color

WEIGHT LIFTING

208 pages — History of American Weight Lifting

BIG ARMS

240 pages — cloth bound — 200 illustrations

SUCCESSFUL, HAPPY MARRIAGE

256 pages — bound in cloth

THE BIG CHEST BOOK

256 pages — heavy enamel paper — hundreds of photos

SECRETS OF STRENGTH AND DEVELOPMENT

240 pages — cloth bound, enamel paper — hundreds of photos

BROAD SHOULDERS

306 pages—cloth bound—heavy enamel paper—hundreds of photos

BETTER NUTRITION

256 pages — contains a healthful system of living

BETTER ATHLETES

400 pages — 300 photographs — cloth bound

GUIDE TO WEIGHT LIFTING COMPETITION

Authoritative book on weight lifting

ADVANCED METHODS OF WEIGHT TRAINING

Contains twenty-four complete training courses

THE HIGH PROTEIN RECIPE BOOK

Contains a thousand high protein recipes

BOB HOFFMAN'S DAILY DOZEN

A simple system of training — with rules of healthful living

THE PROTEIN STORY

Scientific facts about the most important food element

YOU CAN LIVE LONGER

How to add 10, 20, 30 years to your life

PROTEIN — BUILDING BLOCKS OF LIFE

More Strength, Health, Pep and Disease Resistance

COPYRIGHT 1964 BY BOB HOFFMAN

EXERCISE WITHOUT MOVEMENT

FUNCTIONAL ISOMETRIC CONTRACTION

system of static contraction

BY BOB HOFFMAN

WORLD FAMOUS U. S. OLYMPIC WEIGHT LIFTING COACH

1964

BOB HOFFMAN
York, Pennsylvania

COPYRIGHT 1962 BY BOB HOFFMAN

York, Pennsylvania

All Rights Reserved

FUNCTIONAL ISOMETRIC CONTRACTION

System of Static Contraction

FIRST EDITION 1962

SECOND EDITION, REVISED 1964

PUBLISHED 1964 by

BOB HOFFMAN

York, Pennsylvania

Printed in U.S.A.

FOREWORD

America is the richest country in the world. It has a great surplus of food. We should be the healthiest country in the world, but we come pretty close to being the sickest. Overeating of poor quality foods, usually white flour and white sugar products, overdrinking, smoking, overindulgence in general, and insufficient exercising or no exercising at all are chief reasons why we are not as strong as we should be. A full half of the cream of our youth has been rejected for military service. We are living in a troubled world. We have a rough future before us. To survive we must be able, ready and willing to work hard and long, to fight if need be. Don't you think that we should do something about it?, in fact do more about it?

I have been exercising regularly for more than fifty years. I have practiced just about every form of athletics and exercise, and I have done a good job of making and keeping myself strong and healthy. For more than half of my life I have been trying to help others, teaching others—the easiest and best way to super physical fitness.

One of our chief ways to help others has been publishing *Strength & Health, The Physical Fitness Magazine*. We purchased the old *Strength Magazine*, which was established in 1914, combined it with *Strength & Health* in 1935. We have been doing everything humanly possible to urge people to take better care of themselves, to follow simple health rules, the most important of which is physical exercise.

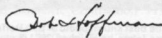
During these many years, I have written 20 full sized books. Some of them contain 500 pages. All were written with the same purpose, to help people become stronger and healthier, to live

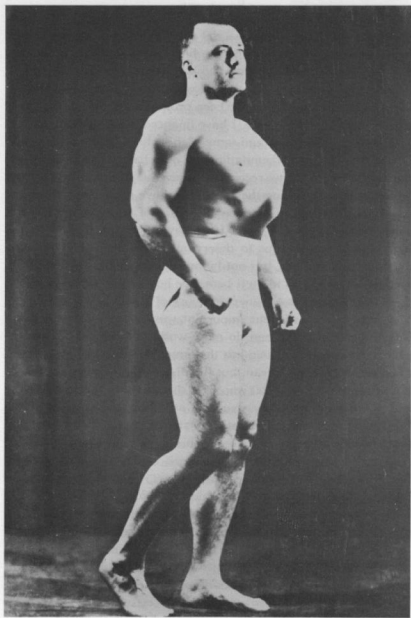
longer and more fully, to build a stronger and healthier America. I have prepared a score of physical training courses and these courses have been used by millions of people to their great advantage. We have been devoting our full efforts to this work of building a stronger and healthier America. And now we have accelerated our efforts. We are in a position to do more about building this stronger and healthier America, this better America. The Bob Hoffman Foundation is dedicated to this task of building a stronger and healthier America, better athletes and better weightlifters. This foundation has as its directors a number of the nation's greatest scientists, men with world-wide reputations, men like Dr. Francis Drury, Ph.D., like Alvin Roy, famous trainer and coach, my long time associates John Terpak, for 12 years United States and also a world champion, John Grimek, the most admired physical specimen in the world, Associate Editor of *Strength & Health*, men like Bill March, the famous athlete, the first to train the Functional Isometric Contraction Way with heavy weight resistance, and Louis Riecke, the first to train with and succeed with pure Functional Isometric Contraction against an immovable object.

These men combined together, and with many others, to help in this wonderful work that is so essential to the future of our country, in fact to the survival of our country. They are now in a position, with the Bob Hoffman Foundation coordinating and aiding their efforts, to do more and better work. This book, and the 25,000 word course which has already become the bible in this field, "Functional Isometric Contraction System for Weight Lifters and Body Builders," and the "One Minute a Day—The Functional Isometric Contraction Way, Exercise Without Movement" course are all a part of that work of building a stronger and healthier America.

The Bob Hoffman Foundation is a nonprofit organization. The author of this book serves as president, and is proud to report that in all the years of *Strength & Health* magazine, he has served without financial remuneration. I was president of a leading industrial plant, in fact I am still president of six corporations, which provides

enough to take care of my material needs. You can only live in one house no matter how rich you are financially, drive only one car, and only eat so much, and my habit is to eat but one meal a day. Although I do not need pay for the work I do, I am only one man, not the richest man, for I have been promoting physical fitness and weightlifting for a long time. I have financed the American team in 51 International events, and some of these have been pretty costly. So the Bob Hoffman Foundation will only have a profit it can use to advance its work if we receive some revenue from the work we do. Selling this book, selling the courses we have described, selling the equipment needed to practice this form of training are present ways of carrying on our work. If we have a surplus, we wish to use it to supply scholarships to deserving young men. This is being done in many nations, but not by our government; a private body such as ourselves has to do it here. We hope some day to receive a government grant to advance our work of research, richer foundations could help us in our important work. Only time will tell if we can get more help and do more work, but the men I am surrounded with will go along just the same. The Bob Hoffman Foundation will do the best it can, but it will accelerate its essential work if we have more help. You who read this can help by following the advice we offer, by making yourself an admirable example of the Functional Isometric Contraction System. You can tell others, you can persuade others to make use of this gift from heaven, the easiest and the quickest way to build strength and a fine looking super healthy body. With the help of all of you, we will move faster in building this stronger and healthier America, in building better athletes so we don't have to be second to anyone. In 21 world championships our team has won 7 times, we have been second 13 times, third once. We don't want to be second to any one. Let's work hard to make America even greater, stronger, healthier, filled with great athletes and healthy, hard working people.





The best known photo of Bob Hoffman, taken on his 43rd birthday. When this photo was taken he weighed 266-1/2 pounds, had a 52 inch chest, a 34 inch waist, and made a world record of 282 pounds in the one arm lift overhead.

CONTENTS

Foreward	5
Chapter 1. A New Method of Building Super Strength	11
Chapter 2. The Development of the Theory and the Proper Application of Functional Isometric Contraction	23
Chapter 3. Proving the Value of Functional Isometric Contraction	27
Chapter 4. A Superior Method of Strength and Muscle Building ..	37
Chapter 5. One Minute a Day, The Functional Isometric Contraction Way	44
Chapter 6. What Is Functional Isometric Contraction?	48
Chapter 7. A Unique and Result-producing System of Training Without A Super Power Rack	55
Chapter 8. Simple Training Devices You Can Use	61
Chapter 9. The Training Course Louis Riecke Practiced	67
Chapter 10. The Measurement of Progress	76
Chapter 11. Strength Is Most Important	80
Chapter 12. Much Research and Experimentation Required To Develop Functional Isometric Contraction	90
Chapter 13. Important Facts About Functional Isometric Contraction Training	95
Chapter 14. Don't Overwork	102
Chapter 15. The Russians and Functional Isometric Contraction	107
Chapter 16. Functional Isometric Contraction Success	112
Chapter 17. More Facts About Functional Isometric Contraction	119
Chapter 18. Functional Isometric Contraction Is Good For The Ladies Too	122

<i>Chapter 19. Strong, Attractive, Healthy Women</i>	129
<i>Chapter 20. Functional Isometric Contraction, Advance Course</i>	135
<i>Chapter 21. Muscle Contraction With Movement</i>	141
<i>Chapter 22. The Accessories of the Super Power Rack</i>	146
<i>Chapter 23. Making the Most From Your Training with the Hoffman Isometric-Isotonic Super Power Rack</i>	152
<i>Chapter 24. Rules For Your Success</i>	155
<i>Chapter 25. Additional Exercise Which Can Be Practiced On Hoffman Isometric-Isotonic Super Power Rack</i>	169
<i>Chapter 26. Exercises Which Can Be Practiced With The Bench</i>	177
<i>Chapter 27. Additional Exercises</i>	181
<i>Chapter 28. Variety Is the Spice of Life</i>	188
<i>Chapter 29. Exercises for the Injured or the Handicapped</i>	193
<i>Chapter 30. Many People Have Been Almost Doing It</i>	202
<i>Chapter 31. Improving Your Performance In Your Favorite Sport</i>	214
<i>Chapter 32. Functional Isometric Contraction Training for Teams</i>	224
<i>Chapter 33. Better Athletic Training The Functional Isometric Contraction Way</i>	235
<i>Chapter 34. Training of Individual Athletes The Functional Isometric Contraction Way</i>	243
<i>Chapter 35. Improving Track and Field Performance The Functional Isometric Contraction Way</i>	249
<i>Chapter 36. Muscle Contraction with Measured Movement</i>	262
<i>Chapter 37. A Successful Coach</i>	266
<i>Chapter 38. Is Muscle Contraction with Measured Movement the Superior Form of Training?</i>	272

A New Method of Building Super Strength

FUNCTIONAL Isometric Contraction is a method of developing functional strength where strength is needed and desired. The Functional Isometric Contraction System brings together all the known scientific facts of strength development and body mechanics. Functional Isometric Contraction is a scientifically proven, very rapid way to develop strength and muscle. Functional Isometric Contraction will develop functional strength more quickly and more completely than any other method known to man.

Functional Isometric Contraction must be applied against a solid, immovable object for resistance so strong that the muscle can not move. In pure Functional Isometric Contraction, the muscle exerts a maximum contraction, but it does not move; it remains the same length, regardless of how intense is the resistance to which it is subjected. During Functional Isometric Contraction the muscle stiffens but does not move. All the muscle energy is used in tension and none in movement when performing Functional Isometric Contraction exercises properly. Consequently it develops the maximum amount of muscle tension. This is one of the reasons why Functional Isometric Contraction is a quick method of developing strength. More muscle tension can be exerted in Functional Isometric Contraction than by contraction where by means of move-

ment, the muscle is allowed to shorten. There is more cell action, more cell growth as a result of Functional Isometric Contraction.

There is growth in muscle size as well as in strength through this form of training. Gains made with the Functional Isometric Contraction System are the result of the overload principle, overloading the muscles. It is nature's way to meet demands which are made upon the muscles and to create an increase in strength to meet these demands.

A momentary shortage of oxygen causes the tiny blood vessels, the capillaries, to grow larger and with them the muscle grows larger too, in order to meet the overload to which it is being subjected. The body develops the ability to carry more blood and more oxygen and thus develops the ability to exert more and more force. This constant overloading of the muscles causes them to become larger and stronger, providing more fuel for the larger muscle as training the Functional Isometric Contraction way is continued. To obtain maximum benefit, it is necessary to exert a maximum force against this immovable object. Maximum force is applied from 9 to 12 seconds. Functional Isometric Contraction operates on a different principle than any other system of training. The system was discovered and developed as a result of research work concerning cell, tissue and muscle growth.

ONE MUSCLE CONTRACTION A DAY

With the usual training system, an hour or two of hard training a day; the muscles become very tired, often sore or strained, and much time is lost waiting for the muscles to become rested. This may take 24 to 36 hours. A muscle will not increase in size and strength after demands have been made upon it until it is thoroughly rested. With the Functional Isometric Contraction System, although the muscles may be worked to their limit for one supreme effort, they do not become tired. New growth in cells and muscle tissues takes place at once. As there is no waiting time, no lost time, you can train twice as often if you wish, five or six times a week instead of three, and gain two to four times as fast.



While visiting the president with a group of A A U leaders, Bob had an opportunity, at the president's request, to tell him of Functional Isometric Contraction training. It is one of Bob's greatest ambitions to install a Super Power Rack in the White House.

One of the biggest reasons for the success of the Isometric Contraction System of Training is the fact that strength is developed where needed and desired. In basic weightlifting movements such as the press and the curl, the weight remains at the most difficult part of the lift, often called the sticking point, for a fraction of a second. The sticking point in the press is about at head level. That is the point where so many lifters fail with their maximum presses. With Functional Isometric Contraction as we practice it, one of our exercises is to hold the maximum static resistance for 9 to 12 seconds at the sticking point. Thus 9 to 12 times as much strength is developed as with a single movement over the entire range. The start of the curl is easy; the finish of the curl is easy; the middle of the curl is where the maximum effort is required. So the Functional Isometric Contraction trainee holds the weight in the middle position for 9 to 12 seconds, thus building strength in the place where it is most needed, so much faster. This system of training can be applied to golf and tennis playing, to swimming, to the playing of games such as football, baseball and basketball, to events of track and field.

It is estimated that there are three trillion cells, 4 billion muscular fibres in the body, and it is known that there are 720 muscles in the body. Most of us use only a part of these cells and these tissues. Functional Isometric Contraction training teaches an athlete to use more of his muscles and to develop greater strength and better coordination in his muscles.

Functional Isometric Contraction training is a wonderful thing for athletes and those who desire the limit of strength and development, but it is also a big step forward in the building of a stronger and healthier America, because with it we have a simple, easy-to-follow, result-producing system which brings sensational results with a minimum of effort. There is no valid excuse in the future to be out of shape, to be fat, to be pepleless, to be tired, even to be sick when it is so easy to keep superlatively fit, strong and healthy, the Functional Isometric Contraction way.

As we have stated, Functional Isometric Contraction is a new,

different, superior, and rapid method of building strength. Functional Isometric Contraction is a method of exercise without movement, a method of developing functional strength through static contraction of the muscles in the position in which the muscle is to be used. This system is especially applicable to many athletic sports. It is a new method which has proven to be a superior method of building functional and all-around physical strength.

This new exercise principle which is now being applied to competitive sports is actually a breakthrough of the barriers of conventional training. Basically, the Functional Isometric System involves exercising against static resistance. This type of exercising is very simple, in fact so simple that many coaches as well as people in the exercising and bodybuilding fields can't seem to understand it, and they keep trying to make something difficult out of it.

An Isometric exercise is one which puts a muscle against an immovable object, rather than a moving object such as a weight or another muscle. To perform an Isometric exercise, you work against an immovable object; you try to lift or move something that can not be lifted or moved. In the process, you exert the greatest possible muscular strain of which you are capable and hold that maximum strain or effort for a stated period, usually ranging from 9 to 12 seconds. Then you relax the muscle, and that is all for that muscle for that day. The most result-producing system consists of three basic movements, a press, a pull and a knee bend. Therefore the absolute minimum from which you can expect favorable results consists of three exercises, one press, one pull and one knee bend. To these are often added two of the very best exercises, two exercises which mean so much to an athlete in any branch of athletics, the toe raise and the shoulder shrug. In running and jumping, power in the feet and ankles, and power in the calves which results from toe raising exercises, will improve athletic performance. At Iowa State University, the late Dr. C. F. McCloy taught the basketball team some Isometric exercises. They helped, for his team became the conference champion. The average gain

in the basketball jump from the practice of the toe raise exercise with moderate resistance was $3\frac{1}{2}$ inches. The center of the team gained a full 6 inches in his jump. Sprinters, middle and long distance runners, high and broad jumpers, hop, step, and jump men, hurdlers, and all other athletes will benefit from this movement. The shoulder shrug builds arm and shoulder strength, upper chest and upper back strength. It is an exercise in which hundreds of pounds of resistance can be used. These five exercises can be practiced in one minute of actual exercising time.

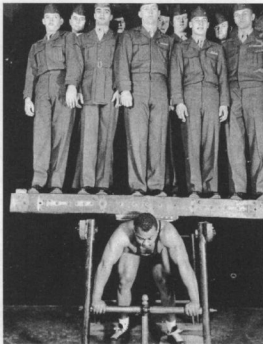
Even more result-producing, instead of the single press, the one pull and the one knee bend, are the "three twos": two presses, two pulls and two knee bends. These six exercises can be performed in one minute, 6 times 10 seconds. Many of the most successful exponents of this method practice the three twos, plus the toe raise and the shoulder shrug. This is the exact system which Louis Riecke practiced with such notable results, as we will relate later. His system of eight exercises for 12 seconds required 96 seconds daily of actual training or limit resistance time. Any athlete, no matter how busy he is, can find time for this short program. If he feels that he can not, then he can practice one of the more abbreviated programs we have cited, the "three twos" or the "big five."

You may be wondering how these few exercises without movement, which are so basically different than the usual training program requiring hours of physical endeavor and countless movements, can bring the superior results we are discussing. In Functional Isometric Contraction there are two basic rules which make the difference, two rules which are responsible for the great success of this wonderful system of training:

1. In Functional Isometric Contraction Training, one muscle contraction a day in each position is usually enough of a workout. A muscle can only grow so fast and with many trainees, a 12 second application of maximum force, will make it grow as fast as it can. However, some men who have better endurance, or better recuperative power, have succeeded well with a number of Isometric contractions in succession. Exert maximum force for 10 to

12 seconds, momentarily relax, maximum pressure again for 10 to 12 seconds, relax, and maximum pressure again for 10 to 12 seconds. You can try both methods, the single 12 second maximum contraction may be best for you, you may do well with fewer Functional Isometric Contraction Exercises, practicing a series of Isometric Contractions. Maximum effort will usually stimulate it to it's maximum growth. As mentioned previously, some men have obtained good results by practicing a series of maximum Functional Isometric Contractions.

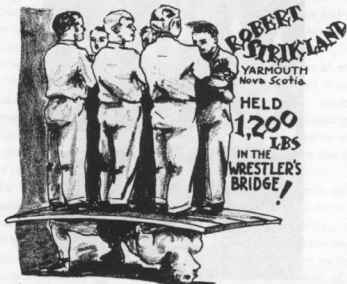
2. The muscle grows faster when there is static resistance, resistance without movement, for with this type of effort there is more cellular action, more cell stimulation, more cell growth. When there is movement, the effort is spread to more muscles, and is diffused or dispersed.



John Davis of the York Barbell Club, 8 times a world's heavyweight champion, twice Olympic champion, lifting more than 2000 pounds Isometrically.



Although his hands are small, John Davis has incredible gripping strength. This photo shows him raising 70 pounds in the pinch grip, squeezing the smooth sides of two standard Olympic 35 pound plates. This too is an Isometric exercise.



Robert Strikland of Yarmouth, Nova Scotia, held 1200 pounds in the wrestler's bridge position. Although these old timers did not know that they were exercising Isometrically, supporting feats such as this, were performed isometrically.



More trophies for the Weight Lifting Hall of Fame. After returning from the 1961 world's weight lifting championship in Vienna and the contests with the Polish team in Warsaw and Katawice, this photo was taken in the York Barbell Club Gym. Here you see Coach Bob Hoffman, U.S.A. 198 pound champion Bill March, selected at Vienna as the "World's Best Developed Athlete," Tommy Kono U.S. 181 pound champion, selected at Vienna for the 4th time as Mr. Universe, and Johnny Terpak, Manager. Few teams have ever won as many trophies on a single trip. Bill and Tommy are holding the No. 1 trophy, the overall, First Prize of Nations. The Gold cup on which Johnny is leaning, is the most expensive trophy in the big "Hall of Fame." This object of gleaming beauty, a gold cup, was one of the prizes given to the American team. The largest statue is Tommy's "Mr. Universe" trophy, the largest cup, Bill March's, "best developed athlete trophy," the smaller statue is Isaac Berger's trophy for winning the world's title in the 132 pound class. Other trophies and medals are individual and team prizes. Dick Zerk, Chuck Vinci, Louis Riecke, Sid Henry and Jim George had already taken their prizes and left for home.

or full arm's extension. In the pull, one pull is from the knees, the middle pull is at belt height, and the top pull at breast bone height; in the deep knee bend, the low bend is performed at lower than parallel, the middle bend half way between parallel and the legs straight position, and the highest bend with which advanced exponents of this system use a thousand pounds of weight or more, is practiced a few inches below the legs straight position. We call this the 1/8th bend. Greatest strength can be exerted when the muscle is nearest extension, as in the leg press and the arm lockout. Many trainees use 500 pounds in the near lockout position.

This is so different from the accepted forms of exercise in the past that there is little wonder that it is difficult for the ambitious athlete to accept the principle of the one supreme effort without movement.

In the past it was common to perform hundreds of repetitions in each movement, or at least a number of sets, 3 times 10, 3 times 15, or even 10 times 10. One well-known course of exercises without apparatus, which at one time was very highly advertised, and has been used by millions, suggests that some of the exercises be practiced one hundred repetitions each, night and morning, day after day, week after week, month after month, year after year. Time consuming, energy consuming, yet brings very ordinary results. No wonder it sounds fantastic to think of gaining superior physical ability in one minute a day, with a few exercises against static resistance. I have exercised for more than a half a century. I have been one of the hundreds, even thousands of movements exercisers. Even a few years ago, a favorite exercise program would be to take a pair of 20-pound dumbbells, and perform ten exercises for ten movements each. Sometimes I did 20 exercises of 10 movements each, without pausing. It took time, brought fair results. But now I am one of the greatest exponents of the "one minute a day" system, and this method of training has brought me sensational results.

At first it may seem hard to believe that this new system of training will bring even better results than these endless move-

ments, yet many experiments or demonstrations have proven that the single maximum static resistance movements have produced better results than the great many tiring, time-consuming, energy-sapping movements.

We were the first in the world to demonstrate this superior new bodybuilding and strength building principle, Functional Isometric Contraction, the first in the world to apply this rapid strength building principle, Functional Isometric Contraction to real exercise, heavy or maximum resistance. The first in the world to apply this strength building principle to heavy exercise, heavy athletics, strength and muscle building. We are also the first in the world to offer this proven system of working against an immovable object, to physical fitness too, to the acquisition of physical excellence for the average American. We were the first to promote this "One Minute a Day, The Functional Isometric Contraction Way," this system of exercise without movement. We think it is the greatest single item in building a better future for America, for any nation is only as strong as the sum total of its people. With the "One Minute a Day—The Functional Isometric Contraction Way," any man or woman can be strong, magnificently built, and super healthy in minutes of easy to practice physical training daily. From now on, there is no valid excuse not to be physically fit.

Since so many athletes and teams, so many Mr. and Mrs. Average Americans, have obtained such superior, even sensational results from Functional Isometric Contraction, it seems that nearly everybody is talking about and interested in this form of training.

It is so new and different that few people know the real facts about it. Even few coaches, few scientists, few medical men know what it is and how it works or how to apply it. Improperly applied, it is of no more value than an ordinary system of free hand exercises. But applied as it should be it is a miracle worker. In as little as one minute a day of exercise without movement, it will build a magnificent body, great strength and super health.

You can not expect much with the old exercises which were called Isometric contraction. The average devotee of Functional

Isometric Contraction starts moderately, takes his time, and as strength develops progressively, more resistance is easily possible and more effort can be expended.

This wonderful new method of training, the Functional Isometric Contraction way, can do a lot for athletics in this country, it can do a lot for Mr. and Mrs. Average American. It is a system of training which can be practiced by people of all ages. It should be the answer to the need for physical fitness, for physical excellence in this country.

After a life time spent in the search for better strength and body building methods, we are happy indeed to offer this new, faster, different, superior method of building physical excellence, the Functional Isometric Contraction Way.

Directors and workers of the Bob Hoffman Foundation include famous scientists, medical doctors, chemists, physiologists, kinesiologists, psychologists, world famous coaches and trainers, teachers and professors of physical education. These leading scientists are working together in this work of building a stronger and healthier America, a work that is so essential to the future of our country, to the survival of our country.

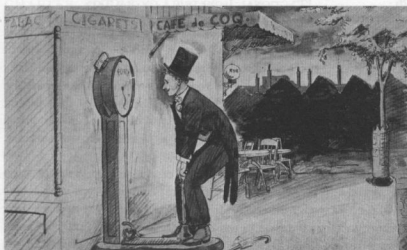
The Development of the Theory and the Proper Application Of Functional Isometric Contraction

THE Isometric principle has been known for a good many years, for as long ago as 1928, seven physical education teachers at Springfield College conducted tests in an endeavor to prove or disprove the value of what is now known as the Isometric-Isotonic principles. Their results were so meagre, so inconsequential, so limited that the tests were discontinued. These men had in their grasp the greatest training principle the world has ever seen. Yet, through improper application, it was discarded. For 25 years almost nothing was done with the Isometric-Isotonic principle. I write Isometric-Isotonic, for both of these terms are applicable to this system of training. Although this system is called Isometric, actually, it should be called Isotonic. *Gould's Medical Dictionary*, one of the accepted best, says: "*Isometric*-muscular act, the preservation of the length of a muscle when stimulated, the muscle undergoing change in tension only; *Isotonic*-having uniform tension or tonicity, a muscle which contracts on stimulation, its tension remaining the same, iso-equal, tonic, tonicity or tension, equal tension." It is evident that this latter is the type of exercise we are discussing, tension without change, rather than Isometric, without muscle movement, changing in tension only. I don't like to cause confusion, but I often call this system of training the Functional Isometric-Isotonic

Contraction System. The latter is the preferred method of training for devotees of this new principle, but we must be careful, and not overlook something worthy, as we did for so many years. By this I mean that muscle tension without movement of the muscle but with changing tension may turn out to be as successful in the application of this principle as the Isotonic movements, without changing of tension. Already, a good number of trainees, myself included, have conducted tests with the Isometric, no muscle movement, but changing tension. I have tried this principle with three efforts and with two maximum contractions. This means, exert force for 10 seconds, momentarily relax, 10 seconds again. Try to make the second effort, the superior application of force. At this time, we can not be sure if this Isometric Contraction System of a series of contractions will work well for all trainees, but we know it has brought and is bringing good results for many who are trying this alternative method, some are making 3 and 4 consecutive contractions.

In 1953, Muller of Germany conducted many tests and became convinced that the Isometric principle had merit. The world's weightlifting championships were held in Vienna in 1954, and while we were there, we heard of these tests and learned all we could about them. As the years passed these Isometric principles were used with considerable success in rehabilitation and the treatment of joint and muscle injuries.

Muller said that strength could be increased at the rate of 5% a week, which would mean that strength could be doubled in 20 weeks. We tried his suggested exercises, and we came to the conclusion that they would do little good for advanced men such as the barbell and weightlifters in our organization. These exercises in my opinion were inconsequential, almost nonsensical. Holding the hands overhead with the fingers spread and the arms tensed, holding the arms to the side with the fingers spread and the arms tensed, standing on the toes with the knees bent for six seconds, sitting on a chair and lifting the legs like a frog kicks, sitting, resisting the legs with the arms to develop the sartorius, pulling



Eugene Sandow, to publicize his strong man act, and to gain recognition, toured the city of Amsterdam one night, breaking all the strength testing machines. This old time strength feat was a good example of Isometric training.



Starting on the road which made Milo of Crotona famous for over 2000 years, as the strongest man in the world. A victor at the Olympic games for 25 years. Milo was one of the first examples of progressive training. Starting with a calf, every day he walked around the stadium in Athens. As the calf grew into a powerful weighty beast, Milo grew in strength too, becoming the strongest man in the world of his time. Supporting the calf, and later the huge bull on his shoulders, was an isometric exercise.

in the waist, tensing the buttocks, and others of the same type. They worked well in various centers with polio and accident victims, with those suffering from muscular sclerosis, but they did not seem to fit in with our required system of heavy exercise to build better athletes and weightlifters. The fact that they helped at all in diseased and injured conditions only seemed to prove our life long belief that any exercise is better than no exercise, that even a little exercise will help.

And then one day, like a bolt out of a clear sky, the question was asked, "How would the Isometric principle work with heavy resistance for weightlifters." The question came forth at a meeting taking place in my office in the Strength & Health Center in York. John Grimek, John Terpak, and myself were taking part in the discussion. This meeting should be remembered, for at that place and at that moment, an idea was born which was destined to revolutionize physical training. At that time it was planned to use this revolutionary Isometric principle with a system of real exercise. This system which was destined to develop better athletes and better weight lifters and a stronger and healthier America.

On that momentous day, the principle of Isometric contraction had been known and experimented with for more than 30 years. It had gone nowhere, and if we had not decided that day to see how it would work with real exercise, it would be in the same rut, still known only to a few scientists. Now it is sweeping the country, and as we have said, will play a most important part in the building of this stronger and healthier America, which is our paramount aim.

Proving the Value of Functional Isometric Contraction

THE first man to attempt the use of this new system was a York weightlifter. Bill March was 23 years of age. He had been a four-letter man at high school, had won letters in football, basketball, baseball and track. He was a good diver, and a very good tumbler. Yet all of his athletic endeavors had brought his weight to just 135 pounds. This well illustrates the fact that Bill was not naturally a superman, that he was not endowed by nature with a super body and super physical ability.

He had learned about weight training, and the first time I saw him, he was filling in at a demonstration of weight training, when I gave a talk before a group of handicapped boys and girls. He weighed 170 at that time. I told him that we needed weightlifters in this country and suggested that he practice the three lifts; two hands press, two hands snatch, two hands clean and jerk, which are the basis of competition over the entire world.

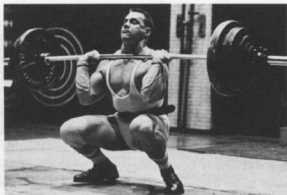
He took my advice, and at the time we called him into my office, he weighed 176 pounds, and had just won the Middle Atlantic championship with a total of 745 on the three lifts. We asked him if he would like to try a new training system which might make him a great weightlifter. When Bill heard the facts, he was quite willing to try the new system. Bill wanted to become a better

lifter. 1960 was Olympic year, and deep in his mind, although the time was short, was the thought that he might make the Olympic team. In his class and the class above, the 198-pound class, were a number of famous American lifters of international calibre. The program started to work almost immediately to produce rapid improvement in strength and muscle. Bill won the National Y.M.C.A. championship with a total of 800 pounds. Nice gaining, but 25 pounds less than the National championship qualifying total of 825. So instead of qualifying for the Olympic team, he could not even qualify for the trials. But he continued to follow the new combination training program, four times a week with Functional Isometric-Isotonic Contraction and one day of weightlifting and he was coming up fast. So fast, that the first Sunday the Olympic team was in York, for their final training before the Games, and we went down to Baltimore to give an exhibition at the Maryland State Prison, Bill lifted well; his total included a 340 pound clean and jerk, which he jerked four times. He was getting strong. On the next Friday he made a real good try for the Olympic team, totalling 925, which included a 360 clean and jerk. The 340 five days before had been a lifetime record, so this represented a gain of 20 pounds in the clean and jerk within one week. His total of 925, also represented a gain of 180 pounds from 745 in three months. No man at that stage had ever gained so fast before, to our knowledge.

All of our immediate weightlifting group, which included all the lifters in the East, were surprised at the progress Bill had made. Everyone wanted to know how he did it. But we kept his training a secret, for it was a new principle, and we did not want others, particularly the Russians, to learn about it until we were farther advanced, had performed all the necessary experiments to determine just what was the best method of applying the Isometric-Isotonic principles to weightlifting and athletics in general.

The team went to Rome. Bill stayed home. He lost considerable interest in his training and even that fall was not doing too well.

Louis Riecke an intelligent and personable young man from



Bill March, cleaning 365 in preparation for jerking it overhead. This photo shows the terrific development of the first man in the world to train the Functional Isometric Contraction With Weights Way.



On the victory stand at the world's championship in Vienna in 1961. Tommy Kono the victor for the fourth time in the Mr. Universe contest. Bill March, won category, 1, the standing still part of the program, and thus was acclaimed as the "World's Best Developed Athlete." Tommy won the posing part of the program, Category 2, and scored the most points overall, so became the Mr. Universe selection. It was a thrilling experience to hear the Star Spangled Banner played as the two American flags went up, as our Isometric men were first and second in the world. Louis Riecke who gained world fame as the first man in the world to train with a super power rack, Isometrically without weights is shown here completing a 300 pound press.

New Orleans had been selected as a member of the Olympic weightlifting clinic in York, so he was one who was amazed at the rapid progress made by Bill March. He wanted to try the same program. Early in November of 1960, when the Olympics were history, we invited Louie to come to York for a conference. There were conferences that very week end. It was decided that Louis Riecke would practice this form of training, but in a somewhat different way. As is now history, Bill March had been using what had come to be known as Functional Isometric Contraction Training with weights. Training progressively with weights and the Isometric-Isotonic Super Power Rack, pushing and pulling the weights against a solid pin. It was planned that Louie would perform his exercises pulling and pushing against an immovable object. He was sworn to secrecy, such secrecy that he would not tell anyone what he was doing. I saw Dr. Drury at a convention and he told me that Louie was training behind locked doors, and he would not let anyone see what he was doing. But Doc said that he knew he was practicing a form of Isometric Contraction. With each passing contest Riecke performed better and people started to marvel at his physical development and strength. People started flying up to York to ask what Louie was doing and what Bill March was doing. It was not until after the national championships early in June of 1961, that Louie disclosed to others what he had been doing. You will note, that the sudden knowledge of many so called experts, dates from that moment. Knowing nothing about Functional Isometric Contraction with maximum resistance, suddenly they became great experts in the field, after we had been proving this system for more than a year, dabbling in it for ten years, with the exercises of little merit which were recommended by the scientists in the field.

Louie did not do quite his best in the Senior national A.A.U. championships but he did well, good enough to give Tommy Kono, long the world's best weightlifter, a man who had won eight world's titles, and had set 26 world's records, the battle of his life. Both lifters were tied after two lifts with a 600 pound



Here you see Louis Riecke, of New Orleans, La., the first man in the world to train the Functional Isometric Contraction Way Without Weights, setting a new world's record of $311\frac{1}{2}$ pounds in the two hands snatch. The greatest feat in the realm of sport is to set a world's record. When a man wins a world's championship, he proves that he is the best man in the competition that day. When he sets a world's record, he proves that he is the best performer in his sport, and his particular event, of all time, past and present. In preparation for this world record breaking success, Louis Riecke trained four times a week with Functional Isometric Contraction, once a week of form lifting, once a week of limit lifting. A good example to prove that exercises without movement, build the power and skill to make world's records with movement.

total, 310 press and 290 snatch for Tommy, 300 press and 300 snatch for Louie. Both lifters cleaned and jerked 365, still tied, then Louie missed a new record of 380, Tommy made it.

The exact Functional Isometric Contraction system that Louie Riecke followed is offered in this book, as well as the Isometric Contraction System with weights which was used by Bill March.

A lot of study, research and experimentation went into the great success of Bill March and Louie Riecke, in addition to their own great physical effort and persistence. Weight lifting history was made. What these young men did was truly a journey into the unknown just as the trips of the American astronaut Sheppard, and the Russian Gagarin, were trips into the unknown. They risked their weightlifting futures by testing this new training method. But fortunately it turned out well, Louis Riecke, a good lifter, but not an international lifter, a man who had won the southern championship repeatedly with lifts such as 200 press, 220 snatch and 280 clean and jerk, total 700, finally made an official total with 303-303-367-974 total, his records of 305 snatch and 370 clean and jerk were made at another time.

In our enthusiasm about the success of Louis Riecke, we forgot Bill March for the moment. Bill was just plugging along, getting nowhere. In five consecutive contests he had totalled 880. Good lifting, but far from the 1000 needed to amount to much in the 198 pound class. He would make a first attempt success with 340 in the clean and jerk, but he could not even clean 350. I had the first Isometric-Isotonic Super Power Rack in my home, so I invited Bill March and his training partner Dick Smith, to train with me and see if we could not get him moving again. Bill was anxious to get back into Functional Isometric Training again, for he saw the great results that Louie Riecke continued to obtain. Bill had shown the way to Louie, Louie was showing the way to Bill. Nearly 7 months had passed since the team left for Rome, it was March 1961 now, and Bill had just loafed along, training the conventional way. He had slipped back from the 925 he had reached in three months of Functional Isometric Contraction training, to 880.

When our new home was built in 1956, I had the floor of one end of the lower level, made 18 inches deeper, so that I could install a power rack. Basically it was the same sort of rack we had been writing about since 1938, a rack which is partially described in the Guide to Weightlifting Competition. 8 feet in height, it is made with 4-2½ inch steel pipes, in which holes have been drilled every two inches, so that pins can be thrust through them to support the weight.

This old rack does not have many of the refinements we now have built into the complete gymnasium we call the Hoffman-Isometric-Isotonic Super Power Rack. It does not have the large holes in the front standard to practice Pure Functional Isometric Contraction, but it has served its purpose for a long time, and I still use it, and expect to use it, until it is retired to our Hall of Fame, as was our first Olympic standard revolving barbell made in 1927, retired in 1959, still in fine condition.

Bill trained in my little Home Gym until we built the second Super Power Rack which was installed in the gym, at the Strength and Health Center on Lightner's hill, North of York. It is still there and will be used for years to come.

In addition to the system we worked out for the Super Power rack, the three three's plus the raise on toes and the shoulder shrug, two exercises I insisted upon as I have had much cause to realize their supreme value, Bill's training was to include a complete Nutritional program. All of the Invigorators made with orange juice, Energol, a germ oil concentrate, and Hi-Pro-teen, a high protein food, made largely with soy beans he could use. A Liver-Iron and Vitamin B 12 tablet played an important part too.

Bill started to move fast. In two weeks, lifting at Chief Joe Peters, (police department) big annual open weightlifting contest, he totalled 915, one week later at Morris Weisbrott's big open contest in New York City, he totalled 930, a new lifetime total for him, and it gave him the best lifter award, against some pretty strong competition. One week later, we drove to Toledo, Ohio

for the National Y.M.C.A. championships and Bill won this championship with a total of 950, setting four new Y.M.C.A. records. A week later he won the Middle Atlantic championship, and surprised a lot of people by winning the physique contest and the title, Mr. Middle Atlantic, which had been won in the past by George Eifferman, Jules Bacon and John Farbotnik on their way to Mr. America and Mr. Universe victories. Bill did this with no special training, body building exercises as we call them, just with Functional Isometric Contraction training four times a week, and weightlifting once a week. Another week later he won the Pennsylvania state championship and also the title, Mr. Pennsylvania. He beat a lot of good men in this contest too, as this contest included the eastern half of Pennsylvania where the big city of Pittsburgh is located, a hot bed of weightlifting and weight training for many years. Almost on consecutive Saturdays he won the Junior national championship, setting four new national records and then he culminated his 10 weeks of Functional Isometric Training, by winning the senior national A.A.U. weightlifting championship at Santa Monica, Cal.

After the Senior National A.A.U. championships, Bill March and Louis Riecke too, were selected as members of an American team which was slated to compete against Soviet weightlifting teams in Moscow, Leningrad, Kiev, and Bilisi. The Russians had a fresh team in every contest, they have an estimated 7 million weight lifters, and our fellows had these competitions in rapid succession. After leaving Russia, there was a contest in Paris, and a big international contest in London, which included the best lifters in Europe as well as the Russians. Five contests against the Russians in a short period. It was a tough trip.

When Bill came back from his extensive travels he was weak and far down in weight, weighing only 186 pounds. The day he had won the national Y.M.C.A. championship in Toledo, he weighed 208 pounds and had to remove nearly ten pounds to compete in the 198¼ pound class. That day, when Bill totalled 950, I drove the 500 miles back to York, driving all night, wide

awake, and the happiest I had ever been in my life. Not just because Bill had won, not just because he had developed one of the most magnificent bodies the world had ever seen, but because I saw some hope for American weightlifting, we had been slipping, it takes so much time and sacrifice to be a weightlifting champion, to succeed, the desire to be a weightlifting champion must be first in a man's life, he must sacrifice, train long hours, and too many give up even before they reach the top. But here was a form of training which required only a few minutes training time, most days in the week. I saw hope for American athletes, for they face the same situation when a young man gets out of school, lack of time, hard to keep pace with the communist athletes where they have nothing to do but train and are well paid for the training, I saw some hope for America, for here was a system so easy, and so quick, that no one would have a valid excuse not to keep in strong, healthy, fine looking condition I saw that we had something, the greatest training system the world had ever seen. So it took Bill a while to recover from his ordeal. But he did recover and went to the world's championship. He lifted in Vienna, and in Poland at Warsaw and Katawice, but most interesting was the fact that he finished second to four times winner, Tommy Kono in the Mr. Universe contest. He did not perform a single "body building exercise," yet he won Category 1. The standing still part of the program, where the competitor faces the judges, then turns sideways and then back, there is no muscle tensing and no muscle posing. Bill proved that he is the world's best developed athlete and has three trophies to show for it, as well as the happy memory of standing on the victors stand, with Functional Isometric trained Tommy Kono while the Star Spangled Banner played and the United States flag went up. In Poland, Bill not only outlifted the midheavyweight at Katawice, but he also outlifted the heavyweight.

Quite a record and quite an experience for a young man who was weighing 176, and totalling 745. He became famous over all the world, and added to his great collection of trophies. Most of this as

the result of his 5½ months of Functional Isometric Contraction training with weights. It brought Bill March a very rich reward. It will do as much, or nearly as much for others who train as scientifically, as persistently and as hard as Bill trained.

Upon his return, Bill and I journeyed to Quebec and there Bill won the championship of North America, and set four new North American records. He entered the physique contest at my urging, and finished second, his score was 452¼ to 453¾ for the winner. Pretty good for a young man who practices the Functional Isometric-Isotonic Contraction System, little more than a minute, four days a week, and lifts one day. In direct contrast, the body building stars may train eight hours daily of constant exercising. Truly our young weightlifters, Bill March and Louis Riecke, showed the way, proved the value of this great system of training.

A Superior Method of Strength and Muscle Building

THE comparatively new Functional Isometric Contraction training system will have an important place in the life of Americans, in developing better athletes, in building stronger and healthier Americans. It will not replace all the good physical activities which have been so popular but it will prove to be a time saver, an energy saver, a super health builder. It will bring superior results faster, with far less effort, in a great deal less time. It will be a body saver, because its scientific methods build the maximum of strength and development with a minimum strain upon the muscles, tendons and ligaments.

It will still be necessary to practice some exercises of movement, to tie the strong points together which have been developed through Functional Isometric Contraction training, to teach the muscles to coordinate. When combined with the proven training principles, the exercises of weight lifting training and other long successful training methods, it will build strong men and women, superbly developed men and women, build better athletes with a greater ability than has ever been seen before.

It is a time saver because on most of the days of the week you can train as little as one minute a day, and receive exceptional results. Many of the men who are practicing the Functional Isometric Contraction Way are athletes who participate in a variety

of sports. They have their exercises of movement as they practice or participate in their sport. There are many people who play golf over the week ends, and after a no-exercise, five-day week, paying little attention to health rules, overworking, overindulging, working under tension, they are not in condition for a vigorous, long week end of golf. But with Functional Isometric Contraction training during the week, they will be super strong, super enduring, and perform so much better and enjoy themselves a great deal more.

Many men like to go hunting in season, but they do nothing to develop their strength and their endurance. Along comes hunting season, and they go out with friends to climb the hills and mountains. Their long untrained muscles complain, but they persist and have a fair measure of what they call fun. But they pay a price for it. The least price consists of sore and strained muscles, colds, blisters. But some men die from this overexertion. I knew a man, a close associate, a former Olympic wrestler, who thought he was still a strong man and an athlete, who had more strength than the average in spite of his years of lack of sleep, nerve strain, over-eating and overdrinking. He would climb the mountains faster than others and laugh at them. He shouldered a buck and carried it in. But he was not in shape to do this, and he died during hunting season from a heart attack.

Cases such as I have just cited are the reasons that people think athletes die young. The definition of an athlete is "a competitor in public games, one trained to contend in feats of physical prowess, one possessed of great physical strength."

During his college years, a man may play football, may gain considerable honor for his ability, and 25 years or even 50 years later, he thinks he is still an athlete. When there is a hard task to do, he tries to perform it, when a car is stuck he pushes it, he shovels the snow, he moves the furniture, he runs for a bus, he digs the garden, he is an athlete, he can do these things. We should say, he was an athlete a long time ago.

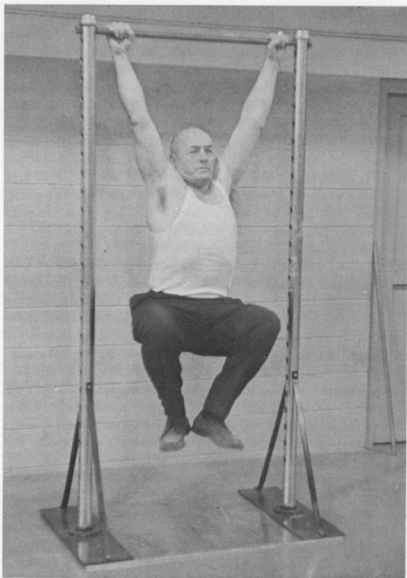
This belief that a man is still a strong man causes a great many men to die of heart attacks each year as they shovel snow. It causes

millions of men to die of heart attacks in other manners. You will obtain excellent physical benefits from Functional Isometric Training. It will make you strong enough, enduring enough to do the things you want to do and the things you feel you must do. It will make you feel more like a man, for you will not have to take a back seat and say, "I would if it were not for my weak back, I would help but the doctor told me to watch my heart." You can be strong enough to do the things you want to do, the things you need to do if you train the Functional Isometric Contraction Way. It could easily save your life or that of another. You may only have to climb a rope once to save yourself from drowning, you may only have to protect yourself and save your life once from a thug or a tough who attacks you, but you only have one life and if you save that life, once is enough.

Functional Isometric Contraction will build strength in your muscles, build strength in your internal organs. But you should at times utilize this strength with movement. If you do not play games, you should include with your Functional Isometric training some form of weight training, so that you practice exercises of movement at least once a week. Exercises over a complete range, such as full presses, full deep knee bends, full dead weight lifts, from the starting position to the highest position, are recommended.

You can see from what we have written that we believe that Functional Isometric Contraction is a wonderful system of exercise. We repeat, the fastest way to build strength and muscle, but it should be combined with exercises of movement occasionally, preferably once a week. Most of the time I use the Functional Isometric Contraction System for approximately a minute nearly every day. But it is my plan to have a nice comfortable training period for about an hour once a week. During this hour, I work continuously, move from exercise to exercise, doing some good exercises. I enjoy this training day, for on this day I do a lot of exercises I have been missing—Press on bench, full curls, pull overs, abdominal raises, pulley exercises.

I use the attachment on my Super Power Rack, hand, wrist



The author performing a favorite exercise, the exercise which has become known over all the world as the Hoffman Frog Kick. This is the exercise which Bob Hoffman wrote to the president about from all over the world, urging him to practice it to cure his ailing back.

and forearm exercises, also with the parallel bar type of attachment on the rack for a host of exercises. But sad to relate, travelling and circumstances beyond my control, may mean that instead of once a week, for a good one hour by the clock workout, a full month or two full months may go by, during which I continue with my pure Functional Isometric Contraction. I am in magnificent condition in spite of it, but I still believe that a trainee should practice exercises with movement, at least once a week, either with the practice of his sport, or with a good workout training with weights and exercises of complete movement.

There are many notable athletes who practice for their sport of shot-putting, discus throwing, weightlifting, as little as one day a week. The remainder of their training is the "F.I.C.," Functional Isometric Contraction Way.

This superior method of strength and muscle building, the F. I. C. system, as we offer it, is the greatest training system the world has ever seen. I am amazed at the rapid and superior results it engenders, the miracles it has already created, at the speed with which it develops great strength, improved functional condition and all-around physical ability. Muscles with all their health giving and body maintaining qualities, with their potential athletic ability grow rapidly, almost like a mushroom grows when conditions are favorable. Had you seen the miracles I have seen as the result of this remarkable system of training, you would be as thrilled, as excited, as happy as I am.

TAKE IT EASY AT FIRST

When trainees have a complete outfit, such as the Isometric-Isotonic Super Power Rack, we suggest that they make their start in Functional Isometric training by practicing muscle contraction with limited movement first. This consists of performing repetitions, usually six, over one of the limited ranges of movement, in the starting press from chest to eye level, in the middle press from eye level to four inches above the head, in the top press, from four inches above the head, to arm's length. In the pull, from knee

level to the lower abdomen, from this position to the top of belt, raised on toes in the middle pull, from this position to the breast bone or the top pull position. At the completion of these six movements, hold the weight for a period of approximately 6 seconds. You should make haste slowly, training progressively, until the muscles, tendons and ligaments become accustomed to the movement.

Without a system which permits movement, with a doorway bar, a board and chains, any form of a rack where you work against an immovable object, you can not do this. You find it difficult to train progressively. In this case, all you can do is to take it easy. Do not exert yourself to the maximum until you have trained for a time, and have strengthened all your body parts. Exerting too hard at first may be no more serious than resulting sore muscles. A young lifter training in our gym had been a national champion weightlifter, had been a member of the Olympic team, and then he had finished his course in college, in preparation for a teaching career and had done little or no training during this time. He came back to York to teach school, and was soon introduced to this extraordinary Functional Isometric Contraction System. You would be surprised at how many sore muscles it made for him. For he used his very considerable strength to maximum too soon. I saw him press out 500 pounds in the top press a few days ago, and he weighs only 150.

Other men who have been athletes got too ambitious at first with resulting sore muscles or pulled muscles. So let me tell you again to take it easy. Put forth a half-hearted effort until you are sure that your muscles are ready and able for a maximum of effort.

There is a lot of discussion about how many seconds of maximum contraction should be practiced. Some think that six is enough. We will admit that six seconds of maximum contraction will build muscle, but few can exert maximum pressure six seconds when that is the complete duration of their exercise. Some can do better than others for they start out with a shout, or growl, almost like we made when we practiced thrusting bayonets into dummies

during our training for the Great War. If you have this functional ability to ram into your effort, you can accomplish a lot in 6 seconds, but few have this maximum ability, this functional ability. The primary object of Functional Isometric Training is to build this explosive energy, this explosive strength, so regardless of how many seconds you practice, ram into your exercises with a supreme effort, with a maximum force.

I am a great believer in the Medium, Light and Heavy System of training, not working to your limit always. Some men can not stand a constant maximum effort, and some men have the ability to outdo themselves when desired or when necessary. I am this sort of an individual. I won lots of races and then collapsed at the finish. I could push myself to the very limit of my physical ability. I won many weightlifting contests, because in the clean and jerk, I could lift 40 pounds more in competition than I could in practice.

When I rowed as a member of an eight-oar crew years ago, we rowed seven days a week, twice on Sunday, and nearly always we had races against other crews. This was not good for me, for I could and did extend myself to the limit, row my heart out, and even a man with exceptional endurance like myself (they called me the "Iron Man," because I entered and competed in 13 races in one day, placing not worse than third in any of them) would not thrive on such a system.

One Minute a Day The Functional Isometric Contraction Way

WITH this new, different and superior training method, you can get fit and keep fit easily and quickly, in as little as one minute of actual training time a day, or with a little more time, and more effort, you can become one of the strongest men, one of the best developed men or best athletes in the nation.

With this new course, *One Minute a Day—The Functional Isometric Contraction Way*, we are introducing you to a wonderful new system of training, a way to keep supremely strong and healthy, a way to look better and to feel better, to feel younger, to actually be younger.

It is an easy, result-producing method of training, which has been known only to a few scientists who have used it primarily for rehabilitation work, and to a few coaches, who have taught some of the nation's weightlifters and other athletes, how to be better athletes and better weightlifters, the Functional Isometric Contraction Way.

It offers an easy, result-producing method of training which is simple, fast, requires little time and energy, yet will bring satisfactory, even sensational results. And these sensational results have been gained with single, maximum force, static muscle contractions, a system of strength building exercise without movement.

One Minute a Day—The Functional Isometric Contraction Way, "The Functional Isometric Contraction System for Body Builders and Weight Lifters," a 25,000 word, scientific course which includes in addition to the Functional Isometric Contraction System With Weights, The Muscle Contraction with Limited Movement System and the Muscle Contraction With Unlimited Movement System, outlines the way the Hoffman Isometric-Isotonic Super Power Rack can be used as 16 machines in one. It is by far the most complete treatise on this new, fascinating, result producing system of strength and body building. "The Functional Isometric Contraction System of Training for Football", "The Functional Isometric Contraction System of Training For Basketball," "The Functional Isometric Contraction System of Training for Track and Field" and similar courses are being promoted by the Bob Hoffman Foundation, This Foundation is doing everything possible to build a stronger and healthier America, to build Better Athletes and Better Weight Lifters, so that America can continue to be the strongest country in the world, the greatest country in the world.

Directors and workers in this foundation include the greatest scientists, medical doctors, chemists, physiologists, kinesiologists, psychologists, world famous coaches and trainers, teachers and professors of physical education. These leading scientists are working together to do this important work of building a stronger and healthier America, a work that is so essential to the future of our country, to the survival of our country.

An article which was written at Louisiana State University, where they are further advanced in the use of this superior training principle than in any other university, had this to say. "Functional Isometric Contraction is a method of developing functional strength through static resistance of the muscles, in the position in which the muscle is to be used, developing force where force is needed and desired. This system is especially applicable to many athletic sports, notably weight lifting and weight throwing. It is a new method that has proven to be a superior method of building functional and all around physical strength.

"The Functional Isometric Contraction Method" is the result of research and demonstrations in a number of centers throughout the nation. Dr. Francis Drury, a physiologist and professor of physical education at Louisiana State University, for years has done his work with the exceptional facilities of this great university. Bob Hoffman, for 30 years the publisher and editor of *Strength & Health*, the *Physical Fitness Magazine*, the Olympic coach in weight lifting, since 1932, maintains a number of *Strength and Health* training centers in York, Pa., most often called "Muscle town" the *Strength and Health Center of the World*. It is here that the *Bob Hoffman Foundation* has its home. The facilities include the extensive strength and health center on Ridge Avenue, with its Hall of Fame, its big gymnasium, its auditorium, clinic and study rooms, the Hoffman Research Laboratory, and the big *Strength and Health Center on Lightner's Hill*, with its indoor and outdoor training and research facilities, and additional rehabilitation centers near his home outside of York.

METHOD SCIENTIFICALLY PROVED

"The Functional Isometric Contraction System of Training, brings together all the known facts of strength building and body mechanics, into the most up-to-date and most result producing concept of strength and development. Functional Isometric Contraction will develop functional strength more quickly and completely than any other method known to man.

"The theory and application of Functional Isometric Contraction is a definite, proven, rapid, scientific method of producing super strength and development.

"The theory and application of Functional Isometric Contraction is the result of the combined efforts of the scientists and teachers of the *Bob Hoffman Foundation*, who were brought together by their mutual interest in the process of developing strength and super health, in building a stronger and healthier America, in building better athletes. The scientists and teachers of the *Bob Hoffman Foundation* are the leaders in this field. These

men have the greatest knowledge, the greatest experience, the longest, experience. They are the pioneers in this great system of training."

You will be wise to follow the proven instruction of these famous men, the scientists, led by Bob Hoffman, who are members, directors and officers of the Bob Hoffman Foundation. The Bob Hoffman Foundation has been assisted in its work by a number of men who proved with their own bodies, the superiority of these training principles. Notably, Bill March, a weightlifter, a member of the York Barbell Club, was the first to apply the principles of Isometric Contraction with heavy weight resistance. Louis Riecke, of New Orleans, was the first to practice the Pure Isometric Contraction System (without movement). Both of these young men have become world famous through the extraordinary success they have had. There are many other athletes who demonstrated the superiority of this system of training, but we are sorry to say, they are too numerous to mention in a small course such as this.



Historic meeting of some of the men of the Bob Hoffman Foundation, at Baton Rouge, La. Here the pioneers of Functional Isometric Contraction as applied to weight lifting, body building and athletic super power rack training, consider the progress of this form of training to date, plan it's future. Left to right, Louis Riecke, Alvin Roy, Bob Hoffman, standing, Dr. John Ziegler, and Francis Scheuermann. Hidden is Dr. Francis Drury.

What Is

Functional Isometric Contraction?

JUST one year ago, almost no one would have believed that in just one minute a day, actual training time, a man could build a powerful, athletic, superbly developed, super healthy body. Many men have already gained their physical desires with this amazing new system of training, Functional Isometric Contraction, with which on most days, you perform five to eight exercises against static resistance, exercise without movement, for approximately one minute a day.

Although the principles of Functional Isometric Contraction have been known in certain academic and medical centers for 10 years, they were used primarily for rehabilitation work. No one had ever thought of applying the Isometric principle to muscle building, the building of great strength and the training of competing athletes, to create improvement in their sport, until early in 1960, Olympic Coach Bob Hoffman started Bill March off on a training program of Isometric Contraction with Weights, which was to cause quite a stir in athletic circles owing to its great success. Later in the year, we arranged a program for Louis Riecke, consisting of Functional Isometric Contraction Training with static resistance. This course included limit training, maximum effort, against an immovable object. It included the "Three Threes," Three Presses, Three Pulls, Three Knee Bends, with variations of fewer move-

ments at times, Two Presses, Two Pulls, Two Knee Bends, Raise on Toes and the Shoulder Shrug, or still fewer, One Press, One Pull, One Knee Bend, the Raise on Toes and the Shoulder Shrug. This is the basis of all the training that is being done with this remarkable system of Exercise Without Movement, Functional Isometric Contraction.

We were the first to apply the principle of Functional Isometric Contraction to heavy or maximum training. Prior to the advent of this sensational system, others who were using the Isometric principle, were employing simple exercises which in most cases consisted of tensing the muscles or of resisting one against another. The Bob Hoffman System of Functional Isometric Contraction, is an entirely new concept of this long known principle, this training principle which in the past brought such meagre results, an entirely new system, different than all others, a system which makes it possible to build a magnificent physique, great strength and super health in as little as one minute a day.

This unique training system, which has already aided its followers to win championships and break U.S. and world's records when maximum effort is expended in training, will also make it easy for the average man or woman, boy or girl, the old folks too, to gain their physical desires. This is the subject of this particular course, to help Mr. and Mrs. Average American to quickly and easily improve greatly in a physical way. This system will enable the typical out of shape adult to get back into good physical condition, very likely better shape than he has experienced in his entire life.

This form of physical fitness, means mental fitness too, it means a more attractive body, it means more endurance, more energy, better health, and the expectancy of a longer and fuller life. All of this, as you will see as you study this superior course, *One Minute a Day—The Functional Isometric Contraction Way*, can be easily and quickly obtained at odd moments, exercising when it is convenient, three to five times a week, without becoming fatigued in the process. In fact, you will find that the exercises tend to have a stimulating effect, due to the increased blood circulation and the additional oxygen that is transported through the body.

In Functional Isometric Contraction, the trainee exerts force against an immovable object. When the weight resistance is so great that it can not be moved even with maximum force, that is Functional Isometric Contraction. Neither the object or the muscle moves, yet the muscle contracts powerfully to the limit of its ability. To obtain a maximum of benefit, it is necessary to exert a maximum force against this immovable object. This maximum force is exerted for 9 to 12 seconds.

Functional Isometric Contraction operates on a different principle than any other system of training. This system was developed with the newest discoveries concerning cell growth, tissue and muscle building. The Functional Isometric Contraction System is founded on the proven but little known principle, that a muscle can grow only so fast, regardless of how many exercises you practice, or how many repetitions you perform in each exercise. To obtain best results it is best to subject the muscle or muscle group to a single, maximum contraction, for from 9 to 12 seconds, and all around strength will more quickly be attained.

Only maximum contractions, only the application of considerable force, will develop the strongest muscles. With the Functional Isometric Contraction System, where the limit of force is applied, usually a single contraction is made in each exercise.

THIS NEW TRAINING METHOD IS SCIENTIFIC AND SOMEWHAT TECHNICAL

The reasons for the superior gains which are made with this single maximum effort against static resistance are scientific and somewhat technical. Functional Isometric Training is a time saver, muscle and joint saver, for on most days, as little as one minute a day is spent in actual exercise, six times 10 seconds with the two pulls, the two presses, the two knee bends, or 5 times 12 with one press, one pull, one knee bend, plus the raise on toes and the shoulder shrug. There should be at least one day a week when a more complete workout takes place, preferably with weights,

working over the entire range of movement to tie together or coordinate the strong points which have been developed the Functional Isometric Contraction Way. We must remember that Bill March and Louis Riecke, practiced 5 to 8 exercises a day, for 12 seconds, from one minute to 96 seconds of actual Functional Isometric Contraction a day. Once a week, they either engaged in competition or tested their muscles with limit poundages in the gymnasium.

Gains made with the Functional Isometric Contraction System are the result of the overload principle, overloading the muscles. It is nature's way to meet demands which are made upon the muscles, and to create an increase in strength to meet these demands.

A muscle must be overloaded to cause it to increase in strength and size, and the "Overload Factor" is achieved to a greater degree in Functional Isometric Training than in any other way.

Research has proven that there is more cellular action, which also means cell growth, when there is the application of force without movement than when there is movement. In this latter case, the force is dissipated through a number of muscles and muscle groups instead of being concentrated as it is in Functional Isometric Contraction Training.

All of the muscle energy is used in tension and none in movement when performing Functional Isometric Contraction Exercises. Consequently, it develops the maximum of muscle tension. This is one of the chief reasons why Functional Isometric Contraction is a quick method of developing strength. More muscle tension can be exerted by Functional Isometric Contraction. With Functional Isometric Contraction there is an increase in capillary action up to 40%, and a greater stimulation of all the muscle fibres than can be accomplished with any other system of exercise. This stimulation results in larger cells, larger muscles, and as larger muscles are heavier muscles, and usually stronger muscles; there is an overall physical gain. Controlled experiments in a number of universities and research centers have provided definite evidence that an average person can make a gain of 5% a week in strength, and in

a 20-week period will double in strength. People already highly developed cannot double their strength in 20 weeks, but any man can make good gains in a few weeks with the Functional Isometric Contraction System if he trains with regularity and according to directions.

ONE REPETITION IN EACH EXERCISE

One of the hardest theories of Functional Isometric Contraction for most trainees to accept is the principle that one contraction per day in each position is enough of a workout. Most trainees, after they practice the Functional Isometric Contraction System for a few weeks and begin to feel their new power, become anxious for more power and increase their workouts. The only way to increase the workouts should be to develop the ability to put forth more effort in each contractional position. Progress is measured in direct proportion to the lifter's ability to put forth a supreme effort in each position of each exercise.

Many trainees who increase the number of exercises practiced may find that they are not gaining as they should or as they expected. This is the time to reduce the number of positions in the program. Don't decrease the supreme effort in the exercises practiced. If you are doing more, reduce the movements to six, two presses, two pulls and two knee bends. If you still do not gain as you wish, reduce to five, one press, one pull, one knee bend, toe raise and shoulder shrug. The minimum program from which you can expect any favorable results should be three, one press, one pull and one knee bend. So don't get too anxious. Don't overwork. Follow the system of training offered in *One Minute a Day—The Functional Isometric Contraction Way*.

Many trainees get so anxious for more gains that they work too hard. This can easily be done with Functional Isometric Contraction. For you do not feel fatigue. You feel that you can go on and on, doing exercise after exercise. You feel that you haven't done enough, that you could train again a few hours later. But you must

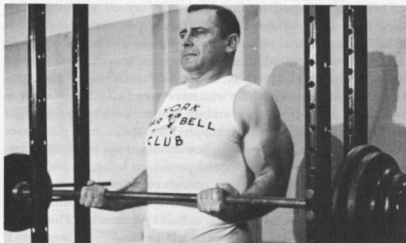
be careful. You can easily do too much so that you do not make the desired gains.

A man must be his own trainer, for only he knows how he feels, how much exercise is favorable for him. If you feel like a million when you get up the next morning, you are on the right track. If you feel tired and out of pep, you are either doing too much, or you are not living right.

There are two good reasons why some succeed and others fail. Some train too little, too seldom, or do not put forth enough force in their contractional efforts. Some train too much, perhaps their bodies do not have sufficient recuperative power. They extend themselves to their limit too often, work on their "nerve" too often. And of course there are those who have poor living habits, such as insufficient or irregular sleep, and the failure to maintain a tranquil mind. So many people do not supply their bodies with the proper food. You can not build your body without proper building materials. There must be plenty of good protein to build the body. The body is built only when there is enough complete protein, protein of high biological value, to supply the body's needs for maintenance and repair, and then enough to build the muscles. There must be enough food for energy. Protein will be used first for energy if there is not enough of energy producing materials. Some people smoke too much, drink too much of alcoholic beverages, some drink too much of tea, coffee and soft drinks which are loaded with white sugar. They eat too much of foodless foods, such as white sugar and white flour products. Good, natural foods are best for building strength and muscles. Functional Isometric Contraction, wonderful as it is, can not overcome these poor living habits. It will help you in spite of bad habits, but you will succeed much faster and succeed better if you follow the rules of healthful living as closely as possible.

This system of training will be of great value to the average family. The Training Rack can be used by the children, by Father and Mother, by the old folks, by neighbors and friends. It is excellent for people of all types, it is a big step forward in the building

of a stronger and healthier America, because here we have a simple, easy to follow, result producing system, which brings sensational results with a minimum of effort. There is no valid excuse in the future to be out of shape, to be fat, to be pepleless, to be sick, when it is so easy to keep superlatively fit, strong and healthy. Functional Isometric Contraction should be practiced by every member of the family.



Is this the biggest arm in the world Steve Stanko in a few weeks of Hoffman Isometric-Isotonic Super Power Rack training, gained ten pounds in weight, after his bodyweight had remained static for a number of years. Looks like a good share of the ten pounds is in his arms.



The smaller photo shows the statue of Steve which is in the Weight Lifting Hall of Fame. Steve was the world champion heavyweight weight lifter, the world record holder, a member of the Olympic team, after injuring his legs, he became Mr. America in 1944, and the first Mr. Universe in 1947. Unlimited proof that weight training and weight lifting builds great strength, athletic ability and magnificent bodies.

A Unique and Result-producing System of Training Without A Super Power Rack

IT WOULD be ideal, in fact it would be wonderful, if we could suggest a few simple exercises which would build great strength and super health for you without apparatus. Some advertisers are trying to do this. They offer you a dozen exercises which are to be performed in 6 seconds each, 72 seconds in all, and they promise great things. They tell you that you can exert 3/5ths of your present strength in these free hand exercises and double your strength in 20 weeks. It's not true. On a plane, going to a weightlifting championship in Phoenix, Arizona, I read a newspaper in which it was stated that you could double your strength in 20 days by doing three simple exercises. One of these was to spread your fingers and tense your arms; another was to hold your arms at full length in front of the body, press your hands together; still another was to draw in your waist as far as possible.

We believe that any exercise is better than no exercise, but you get out of exercise what you put into it. Put in a little, and you benefit little. The exercises we have been discussing, the three I read about in the paper, would not double your strength in twenty years. Our fellows, such as Bill March, who received such wonderful results in Isometric Contraction Training with Weights, handle real weight resistance in their exercises. Bill handles 400 pounds in the starting press, 300 pounds in the middle press, 500 in the lock-

out press at full arm's length overhead. He lifts 1000 pounds, sometimes more, in the 1/8th knee bend; 400 pounds in the starting knee bend; 400 pounds in the middle bend, and he pulls 600 pounds in the starting deadweight position just above knees.

Louie Riecke trained with pure Functional Isometric Contraction, working against an immovable object, so he could not exactly measure the force he was applying, but he developed the ability to exert a maximum pressure, as proven by the fact that on a tryout day he did a deep knee bend with 480 pounds, a dead weight lift with 480 pounds, press from the top of head to arms extended with 425 pounds, and his official weightlifting records are 303 press, 305 snatch, and 370 clean and jerk, these lifts made as he competed in the 181 $\frac{3}{4}$ pound class.

Human muscles are capable of exerting great force and to develop them you must have a means of applying great force against an immovable object. You can not do it by resisting one hand against another, or by pushing your legs in various positions with your arms, or merely lifting your legs, or pulling in your waist, or raising on toes, or extending your fingers.

To get fit and stay fit, you need something substantial to work against, a solid, immovable object. Later we will tell you of the apparatus you can make or can obtain from other sources, which will make possible the easier, more result-producing effects of your Functional Isometric Contraction exercises. But right now we are discussing the possibility of building strength and muscle, better health and better physical condition if you are so situated that you do not have apparatus.

If you are at home, you will find various stationary articles around the house and yard you can use. Many fellows who train the Functional Isometric Contraction Way, go around with a gleam in their eye, looking for objects to pull against and to push against.

Around your home and in hotel rooms, you will find some things to push against and pull against. I most often use a doorway, for there is a doorway in every room. I am tall enough that I can

perform a good variety of exercises without movement, in just about any doorway. If you are short, your problem is greater. Following are exercises I do in a doorway. Some doorways are higher than others, some are broader than others, but I believe that the majority of people can perform some result producing exercises in a doorway.

1. Stand in the doorway, tense or lock your knees and hips, and press hard Isometrically for the desired number of seconds against the top of the doorway. If the door is low, a lower press position can be practiced. If the door is high, stand on a box or bench.

2. Leg press with straight arms against top of door. As I can hold 400 pounds overhead at this stage of my career, I can get a 400-pound leg press in this position.

3. Toe Raise. This is not pure Isometric, as I have to push against bent arms and with slightly bent knees, but I can assure you that it is a worthy exercise.

4. Get some sort of a small cushion or towel, and press your head back against the door jamb. This will develop the back of your neck.

5. With the same sort of pad against your forehead, press it against the door jamb. This will develop the front of your neck. As the neck is the most conspicuous part of the body, when clothed, your appearance will be greatly improved when you have a well-developed, column-like neck, which will result from these exercises.

6. To develop the pushing muscles of the arm and shoulder, put palms together, rest one elbow against the door jamb, press against it as hard as you can with the opposite arm. This is better than merely pressing one hand and one arm against the other because it is pure Functional Isometric Contraction.

7. This develops the pulling muscles of the arms. Pull back so that force is exerted, with the elbow against the door frame. Use the other arm in turn. You can vary the position by pulling low, pulling near shoulder height, and pulling in a high position, or push both arms against the door simultaneously.



Bill March illustrating the exercises which can be practiced in any doorway, the Functional Isometric Contraction Way with favorable results.



Exercise No. 1. Press in doorway. Use low box or stool if necessary.

Exercise No. 2. Leg press. Arms straight, legs bent, leg press with maximum force.

Exercise No. 3. Toe Raise. Raise on toes arms slightly bent. Hold position for 12 seconds.

Exercise No. 4. Neck exercise, pressing head against door jamb.

Exercise No. 5. Neck Exercise. For front of neck, pressing against doorway.

Exercise No. 6. Arm Exercise. Push against door jamb with opposite arm.

Exercise No. 7. Arm Exercise. Push arm against doorway.

Exercise No. 8. Side Press. Performed with one or two hands.

Exercise No. 8-A. Same as 8, performed with one arm.

Exercise No. 9. Lateral Raise. A good shoulder developing exercise.

Exercise No. 10. Pull Down. Develops Latissimus Dorsi Muscles.

Exercise No. 11. Leg Press. Pushing against door jamb.



Simple Training Devices You Can Use

THE important thing is to practice your exercises when you can and where you can. I have a complete little gym at my home, which includes the first Hoffman Isometric Isotonic-Super Power Rack we made. When I am home, training is easy, most of the time I practice the One Minute a Day, Functional Isometric Contraction Way. But I am away from home much more than I am home. Recently I was home just three days in nine weeks. On all the trips I made, and I travelled around the entire world this last year, China, Japan, South America, Russia twice, Europe three times this year, was on every continent, I carried with me a Doorway Bar and used it wherever I was.

It will pay you too, to follow the rules of healthful living, and the most important rule is regular exercise. With this new system of training, keeping strong will not take much of your time. Strength and Health are the most important things in the world, and you should do all you can to acquire and retain them. When you possess them anything and everything in life is possible. When you don't have them, life is short, pain-filled and unhappy. Plan now to continue getting the most from life by including regular exercise in your program. We have made it easy for you by discovering, developing and arranging a system of training which is the easiest and quickest, the most result-producing system which has ever been offered to the general public.

8. If the doorway is wide enough, or you are small enough, you can place one hand on each side of the door frame and perform a side press. If you are large in size, you can place your body against one side and press with the other arm. Use both arms in turn in this exercise.

9. Lateral raise against the door frame. You can use both hands at once if the doorway is wide enough, otherwise use one hand and then the other.

10. Placing hands on top of the door frame and keeping arms straight, pull down as hard as you can.

11. Leg press against the door frame. Sitting with back against one side as you leg press against the other side.

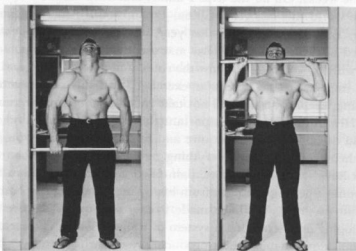
12. If you are tall enough, or if you have a doorway which is narrow enough, you can place your back against one side of the door frame and press hard against the other side.

As an illustration of the fact that you can develop a good measure of strength with these exercises of pulling and pushing against solid objects you can find around any home, I cite the case of Stanley Cheifetz, one of the nation's best weight lifters. One night recently, in a weight lifting contest he made his best life time weight lifting total, which included a 275 pound snatch and a 365 clean and jerk. Stanley was weighing about 230. His lifting was good, but how he accomplished this improved total was a bit unusual. We were assured by his coach, that he had not been training at the club for some months, that he had performed his exercise at home, pushing on the top of the doorway, thus building his pressing muscles, knee bending the arms straight against the top of the doorway, building his leg muscles, pulling against the bath tub, strengthening his back muscles.

DOORWAY BARS ARE INEXPENSIVE

A good Doorway Bar can be purchased for a few dollars. With this course you will have invested less than ten dollars in your course and your training equipment. A Doorway Bar will not permit the heavy resistance you will get with a Super Power Rack, but it will help you build a fair degree of strength. A Doorway Bar holds 250 pounds or more, safely and securely, so this means that you can get at least 250 pounds resistance to a press, a pull, a knee bend or any other exercise.

The regular exercises which we will offer later in this course, which are used with the various power racks, can be practiced with the Doorway Bar. You can chin the full range if you wish, which is a good exercise, or you can hold the various positions, low position, middle position and high position, for 9 to 12 seconds. A Doorway Bar weighs only two pounds and folds up so that you can easily carry it with you in your suitcase.



Bill March performing the Shoulder Shrug with a Doorway Bar.

Two hands press, chin level. These photos show Bill's Isometric Contraction Developed Muscles to good advantage.

The next least expensive device to practice your exercises the One Minute a Day—The Functional Isometric Way is a board with chains. To make this equipment, you will need a board 30 inches long, one foot wide and approximately two inches thick. You need two welded chains seven feet long. They must be fastened to the board with bolts which extend through the board. You need a bar with hooks on each end to fit and hold the chain at the desired position. Stand on the board and you are ready for exercise.

You can make your own outfit or you can purchase this sort of a training device. It has the advantage that it does not need to be permanently fastened down. You can perform all of the exercises which will appear later in this book.

For thirty years we have been telling people how to build a power rack. In the *Guide to Weight Lifting Competition*, which was written first of all in 1938, we suggested that the ambitious lifter obtain either four 2 x 4s or four 2-inch pipes, in which he should drill holes every two inches to practice lifting in the various positions. During all of these years I have seen a lot of racks, some almost Rube Goldberg-like in their construction.

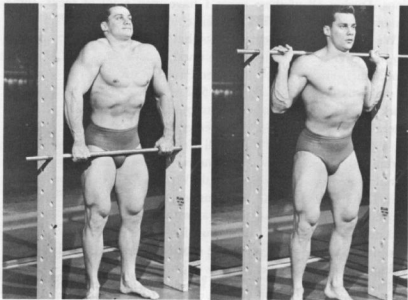
We have made all sorts of racks, have a number of them in the big, York Barbell Club gym. The finest rack of all is, of course, the Hoffman Isometric-Isotonic Super Power Rack. But it is not easy to make. It is made of steel and 552 holes are drilled in it. It is a work of considerable magnitude to build such a rack; it takes considerable mechanical skill, and even engineering skill. But it is made for a purpose, to do its work well. It is 16 training devices in one and permits Pure Functional Isometric Contraction training, Functional Isometric Contraction with Weights, Muscle Contraction with Limited Movement and Muscle Contraction with Unlimited Movement. For the man who wants the limit in strength, health and development, it is a must. But, for the man who wants to obtain the best results he can in the shortest time, with the least cost, a simple Isometric Power Rack will do.

The easiest rack you can build requires two 2 x 8 boards at least 8 feet long. If possible, they should extend from floor to ceiling, for

lifting as you will be doing with maximum force, it is hard to fasten the rack down well enough to resist up to a thousand pounds if you don't attach it to ceiling and floor. You should bolt these two boards together and then drill a series of 1-1/8th inch holes. They should be left of center, another row of holes should be right of center, and the holes should be staggered so that you actually have an adjustment every 2½ inches. The holes should be numbered so that you can always come back to the proper adjustment for the various exercises.

For One Minute a Day—Functional Isometric Contraction exercises, this is all you need.

Nothing could be simpler than a rack made of these 2 x 8's. If you anchor them properly, top and bottom, the rack will serve very well. You can see more about the construction of these racks by closely examining the illustrations in this book and in the super training course, "Functional Isometric Contraction Training With Weights for Weight Lifters and Body Builders".



March, exercising with an easy to construct F I C rack made with 2 x 8 boards.

LOUIS RIECKE'S COMPLETE TRAINING SYSTEM WITH FUNCTIONAL ISOMETRIC CONTRACTION

We are offering with this course the exact training system which made it possible for Louie Riecke to progress from a good lifter to one of the world's best. He was the first man in the world to practice limit pressure in the Functional Isometric Movements against a power rack. He showed the way.

He was 34 years of age when he began this form of training. He had been Southern champion many times, but his lifting totals were mediocre, far below international standards. But since using Functional Isometric Contraction he has progressed to the point where his official records as this is written are 303 press, 305 snatch, 370 clean and jerk, total 978. The snatch is the highest ever made by a man of his weight in America.

You will notice that he practiced eight exercises for 12 seconds each, which means that he actually applied pressure for 96 seconds.



Louis Riecke demonstrating Functional Isometric Contraction Training With Weights. 375 pounds held against the top pins.

Not much more than a minute. Lately he has been practicing just five exercises, one press, one pull, one knee bend, one raise on toes, one shoulder shrug, just one minute of training.

As there are three presses, one at chin level, another at top of head, another at 3 inches below lockout, you should alternate and be sure that all are included in your program, for all are good exercises. There are three pulls, one at knee level, one at waist level and one at breastbone level; three bends, one at the lowest possible position, below parallel, one half-way from parallel to the straight leg position, one a few inches below the leg straight position. You should alternate these movements at times. Be sure to include your pull up or "frog kick" and the hanging exercise to complete your program. All the exercises are important.

We are including a fine collection of additional exercises which can be practiced the Functional Isometric Contraction Way. Nearly all of these exercises can be practiced in three or four positions. You will have at least 100 good, result-producing exercises to practice the One Minute a Day—Functional Isometric Contraction Way.

The two or three presses, the two or three pulls, the two or three knee bends, plus the result-producing raise on toes and the shoulder shrug provide an excellent training system. They teach the muscles to work in the way that strength is most often applied, knee bending, back lifting, lifting overhead. They will make a man strong, are of great benefit to a working man and to any sort of an athlete. They should be practiced in addition to the specialized exercises which create improvement in athletic performance.

If your aim is just to be well built and super healthy, although you can gain that end by practicing the three threes, the two threes, or even the one three when time is short, you will find it interesting and result-producing to practice some of the exercises we are about to offer.

The Training Course Louis Riecke Practiced

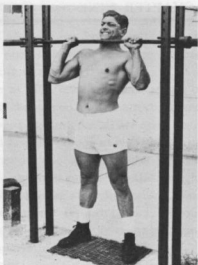
AFTER a few calisthenics to warm up the back, shoulders and legs, exercises such as are found in the Bob Hoffman Daily Dozen, toe touches, side twists, touching toes alternately with either hand, twists, deep knee bends, the cat stretch, the following exercises were practiced with absolutely no deviation and no added movements of any kind, during the latter nine-tenths of the program, except the once a week testing of his improvement in strength, by lifting weights either on a limit day of training or in actual competition.

Exercise No. 1. See illustration. Press Lockout. Set the bar at a height about three inches below the lockout position, arms fully extended overhead. Grasping the bar with hands about shoulder width apart, look straight ahead, tighten leg, hip and back muscles and push on bar as hard as possible from 6 to 12 seconds.

Exercise No. 2. See illustration. Press start. Set the pins about chin height. Use same grip as in Exercise No. 1. Again tighten legs, hips and back muscles, look straight ahead and push on bar as hard as possible for 6 to 12 seconds.



Exercise #1 Press Lockout

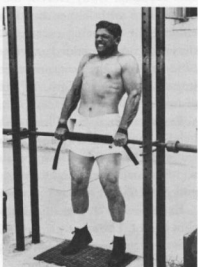


Exercise #2 Press Start

THE TRAINING PROGRAM OF LOUIS RIECKE



Exercise #3 Rise On Toes



Exercise #4 Pull



Exercise #5 Parallel Squat



Exercise #6 Shoulder Shrug

Louis Riecke, of New Orleans, La., demonstrating his Big 8, Functional Isometric Contraction Training course without weights which brought him to world fame.



Exercise #7 Dead Weight Lift



Exercise #8 Quarter Squat

Exercise No. 3. See Illustration. Rise on toes. Set the bar at a height where it will rest just touching or a little above your neck and shoulders, when you are standing in front of it in an erect position. Keep the knees and hips locked tight, the back straight, and the head slightly turned back. Hold hands on bar at a comfortable position. Rise on the toes and push on the bar as hard as possible for 6 to 12 seconds.

Exercise No. 4. See illustration. Pull. Set the bar at a height where it will be six or seven inches below the waist. Use same grip as in No. 1 and 2, rise on toes slightly, look up slightly, bend the arms and pull as hard as you can for 6 to 12 seconds.

Exercise No. 5. See illustration. Parallel Squat. Set the bar at a height where it will rest on the back of the neck and shoulders when you are in a squat position with the thighs parallel to the floor. Place the hands on the bar in a comfortable position and rise, pushing with the legs as hard as possible for 6 to 12 seconds.

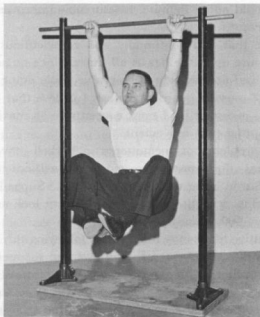
Exercise No. 6. See illustration. Shoulder Shrug. Set the bar at a height where it will be in your hands when your arms are fully extended downward. Grip the bar with hands about shoulder width apart. Shrug the shoulders upward as hard as possible for 6 to 12 seconds. Keep the arms and legs fully extended at all times.

Exercise No. 7. See illustration. Dead Weight Lift. Set the bar at a height where it will be about two inches below the knees, when you are holding it with hands about shoulder width apart. Keep the head up, the hips down and the back flat. Push hard on the legs and pull up as hard as you can for 6 to 12 seconds.

Exercise No. 8. See illustration. Quarter Squat. Set the bar at a height about four inches below the height it would be if you were standing erect, with the bar across the back of the neck and shoulders. Grip the bar with the hands in a comfortable position, and push up with the thighs as hard as possible for 6 to 12 seconds. Keep the head up, the back flat, and the heels on the ground.

After this exercise it is advisable to set the bar in the highest position and hang by your hands and pull the knees up to the chest from ten to twenty repetitions. This will keep the abdominal muscles firm and in good shape, stretch and align the back.

The hanging exercise, with the Frog Kick at the start of the program and again at the end, is good practice. We think it is one of the most important exercises. It stretches and aligns the spinal column, it strengthens the back, slenderizes the waist as it strengthens all of the muscles of the mid section. It provides a great deal of relaxation for those who have been sitting too long, working too long. The improved posture prevents a lot of fatigue in office and factory. It perhaps does more than any of the other exercises to improve the appearance, as it induces better posture and a slender waist. It is a good movement for the ladies too. You will be amazed at the favorable results it produces. If there was just one exercise in Isometric training, and this hanging exercise was it, it alone would make the practice of Isometric exercises very valuable for anyone. It is a real good exercise.



Johnny Terpak, for 12 years U.S. and world's champion in weight lifting, captain of the Olympic team, performs the Hoffman Frog Kick, isometrically, (without movement) with a portable Power rack, designed for Functional Isometric Contraction training without weights.

THIS IS THE ENTIRE ROUTINE. DO NOT DO ANY MORE. Follow this routine exactly, do each exercise only once each day. Doing more will slow or stop your improvement.

1. Bob Hoffman predicted as a result of this routine I would not only not experience the fatigue caused by my former barbell and weight lifting routine, but I would actually have more energy after the workout than ever before. This has certainly been true. There were days when I had had a particularly trying day and did not feel energetic enough to go through my new routine, but I forced myself to do it and found that after I had finished, I not only had completed my workout as scheduled, but felt much better and more energetic than before I had started.

2. It takes from one to two weeks to get the "feel" of this routine, so don't give it up after a few days if you do not feel as if it is helping you. You should notice definite, measureable improvement within one to two months.

3. Be sure that you continually and conscientiously exert all possible pressure upon the bar at all times. Since no actual movement is involved no results are observable while doing an exercise and "loafing" must be guarded against. I believe that 100% effort at all times is necessary, so I must concentrate on maximum effort before attempting each movement.

This is a problem not encountered in barbell movements, because sufficient effort must be exerted or you will not complete the movement. But in using the Isometric-Isotonic Super Power Rack without weights, a push of 50 pounds does not look any different than a push of 500 pounds.

4. Competitive lifters may find that by following this routine and excluding all lifting movements, they will find themselves "out of the groove," in short, "out of form" when they resume lifting heavy weights. It will be necessary for them to do some weight lifting practice one other time a week in addition to their total weight lifting day, especially if their form needed improving when they started this routine. But they will find in any event that their body power is tremendously increased right from the first few weeks.

5. I believe it better to complete this routine in as short a period as possible. For a while I was resting and listening to the radio between exercises and stretching my workout to 30-45 minutes, instead of the original 20 minutes. But I found that I got a better workout and felt better if I rested only long enough to recover my breath.

A Few Important Points in Summary.

1. Do not do too much! One repetition in eight different movements is plenty.

2. Conscientiously strive to put forth 100% effort on every movement for 6 to 12 seconds.

3. Complete your routine in 15 to 20 minutes. Do not rest too long between movements.

4. Keep an accurate record of your workouts and chart your progress.

My work with the Functional Isometric Contraction System of training started to be an experiment to determine the amount of strength the human skeletal muscle could be increased by means of a single maximum contraction performed once a day in a group of exercises. The strength of the muscles was tested once each week by means of five movements, using a barbell to measure the amount of weight lifted.

The lifts used were the three Olympic lifts, (Press, snatch, clean and jerk, which are the basis of competition in official weight lifting, the world over) plus the dead weight lift and the full squat, two basic exercises which involve the largest and strongest muscles of the body.

The subject of this experiment, or rather demonstration as it became, was an adult (34 years old) competitive weight lifter who had been lifting for fourteen years and had trained very regularly for the six years prior to this experiment using the best accepted methods followed by all other American weight lifters, of handling

progressively increased poundages in workouts to increase strength. There was no change in the training routine or living conditions, except that Functional Isometric Contraction training was substituted for all other weight training, except during the limit or tryout day, each week. It is reasonable to believe therefore, that Functional Isometric Contraction training, the only change in the Louis Riecke life and training, was responsible for the truly phenomenal gains in strength and lifting ability which were made.

A record was kept of every exercise performed each day, as well as the test lifts with the barbell, once each week. As a matter of additional interest the subjects anthropometric measurements were taken at the start of the experiment and at the time of the final outstanding total to determine to what extent muscular hypertrophy accompanied the increase in strength. These measurements were taken "cold" shortly after arising, at 8 A.M. The exercises were performed daily on a simple apparatus adjusted to the height required by each of the eight movements performed.

To minimize the unconscious reducing of force applied to the larger muscle groups in event of the slipping of the hand grip, the hands were strapped to the bar on those exercises in which the bar is held by the hands.

For unavoidable reasons, as in the case of travelling and being far from the training quarters or other influencing factors, some workouts were missed. The workouts averaged four days per week, plus the day on which barbells are used, to test improvement. Also some weeks, the "total" day was missed because of lifting contests or some unavoidable reason. Editors note. While Louis Riecke followed his program exactly as outlined, in continuing this program he feels that a lifter should have one other day of form training with sufficient weight to cause him to perform the movements properly.

Several factors must be noted here.

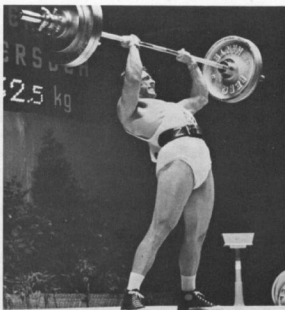
1. Some of these totals were made in competition, so it was not possible to perform the dead weight lift and the squat movements on those days.

2. It is noteworthy that the subjects bodyweight remained practically constant, though his muscular measurements increased and his physical appearance was remarkably improved.

3. No special change was made in diet, although the subject continued his habit of including as much good protein rich foods in his diet as possible.

Louis Riecke's Improvement in Less Than Five Months with the Functional Isometric Contraction System of Training

Date	11-21-60	12-28-60	1-24-61	2-3-61	2-13-61	2-20-61	3-7-61	4-3-61	4-15-61	5-12-61
Press	255	285	285	290	255	285	295	295	303	300
Snatch	265	270	290	280	285	285	275	285	303	305
Clean & Jerk	315	330	350	335	320	340	320	360	368	375
Olympic Total	835	885	925	905	860	910	890	940	974	980
Squat	450	440		460		470	485	480		
Dead Wt. Lift	435	450		460		470	450	480		
Total	1720	1775		1825		1850	1825	1900		
Body Weight.	179	185	181	182½	182	181½	181	180¾	181X	181
Gym Total . .	X	X		X	X					X
Meet Total . .			X						X	



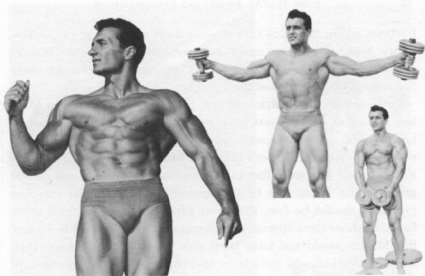
Louis Riecke, weighing in the 181 pound class, officially pressing 305 pounds, only Tommy Kono, the world record holder, has pressed more.

The Measurement Of Progress

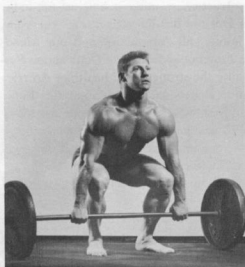
By Dr. Francis Drury, Ph.D.

THE strongest motivator for continuing the Functional Isometric Contraction System of strength building, is the periodic lifting of weights. Because of the nature of Functional Isometric Contraction, the strength and health seeker can not objectively measure the results of his workouts. This to many people is a mental block for continuing their Isometric workouts, they simply can not determine how they are doing. It takes a few weeks to obtain measurable, noticeable results, and many trainees become discouraged during this time and feel that they are not making the gains they should, the gains they expected. All Functional Isometric Contraction trainees should measure their progress regularly with a barbell. This should be done at least once a week. The exerciser should keep a record of his maximum lifts, and the poundages he can use in the various exercises and tests.

The Functional Isometric Contraction System of training should include the use of weight training and weight lifting for there is no other suitable method of measuring the newly developed muscular power of those who practice the Functional Isometric Contraction way. The measurement of progress by the regular use of barbells is important to the continued success of the Functional Isometric Contraction System of strength and muscle building. The use of



Tom Sansome, Mr. America 1958, won his athletic points by being a member of the national champion two mile relay team which scored it's victory at the Penn Relays.



Strong, magnificently developed, athletic products of the Bob Hoffman system of weight training. Ron Lacy was a varsity football player at Kentucky. Does everything well in an athletic way. Won Mr. America title in 1957.

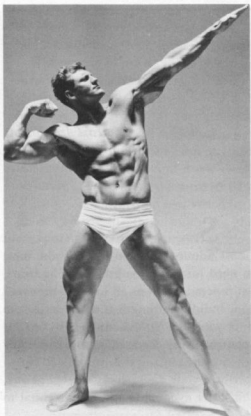
barbells fills in the gaps between the force application of the Isometric System, it ties the new found strength spots together, teaches the muscles to work in the desired channels, coordinates and hastens the strength and body building progress.

In Functional Isometric training, your progress may seem to be less than you expect, you may even become discouraged simply because you can not measure your progress, can not determine if you are making satisfactory progress. Many trainees will put forth a slight, half hearted effort in the various movements and expect great results. They will be disappointed, for while the exercises practiced should be few, the effort expended must be with great force. Without these special weight training days, Louis Riecke and Bill March would not have been able to make the progress they made. So you should include weight training at least occasionally in your program, to assure your progress and to measure your progress. This does not mean that you will make no progress without weights, it simply means that you will be working in the dark, will not make maximum progress without weights.

Functional Isometric Contraction training is not just for today and tomorrow, it is for life. It is not just for you, it is for everyone, all the members of your family, all Americans, and our friends throughout the world. The Functional Isometric Contraction System is so important in building the stronger and healthier America the Bob Hoffman Foundation is devoted to. Let's use this Functional Isometric Contraction System, as a stepping stone to greater things, to even better health, greater strength and a magnificent body. Isometric Contraction training, even a minute a day, will provide a longer and a fuller life for you.

Go the limit in your training, make the most of this wonderful training principle. Really live.

The frog kick can be an exercise with movement which has an added slenderizing effect on the mid section, or it can be a strength building exercise, simply by pulling the legs high and holding for 12 seconds.



Ray Rutledge, Mr. America 1961, in an interservice field meet, threw the hammer 201 feet. He also was the Army champion in heavyweight boxing. Weight lifting built muscles, as well as Functional Isometric Contraction muscles, will perform well in any sport or athletic endeavor.

Strength Is Most Important

STRENGTH is the most important human quality. It is the most admired human quality, the most useful human quality. You need internal strength, a strong heart, strong lungs, strong internal processes, and as all internal processes are muscular in their action, building strength is so important to your health and the length of your life. You need strength in your muscles, for the muscles control every form of motivation, they make it possible to run, to jump, to lift, to push, to pull, to carry. They make it possible to perform your daily work, to play games, to take part in sport. In this latter event they are also essential to success.

Stronger athletes are better athletes, for strength is the most important characteristic of an athlete. Whether you are a competitive football player, a baseball player, a basketball player, a participant in track and field, a swimmer, a boxer, a wrestler, or whether you play golf just for fun, to win some of the awards at the country club, strength is the most important road to your success.

WHY IS STRENGTH SO IMPORTANT?

1. Strength increases coordination and control.
2. Strength increases speed.

3. Strength increases endurance, for endurance is simply the ability to carry strength over a longer distance or a longer time.

4. Strength increases the explosiveness of the muscles. It is explosive power which makes Valeri Brumel, an average sized Russian, jump higher than any man in the world, it is explosive power that makes a sprinter such as Frank Budd make a new world record in the 100 yard sprint, it is explosive power that made it possible for Jay Sylvester, an average man physically, to break the world record three times in a period of a few weeks. When the writer met Sylvester in Leningrad in the summer of 1961, he said that he had done a little Isometric training. We told him of the three threes, the three presses, the three pulls, the three bends, the toe raise, the shoulder shrug, all Isometric exercises, and before long he started to throw the discus farther than any other man ever threw it. In fact, 16 feet farther than any other man. When you hear of new records in any sport, you can be pretty sure that the makers of these records are training the Functional Isometric Contraction Way. For with this new system, all records in all sports will be broken and rebroken in the next two years.

5. Strength prevents injuries. Strong joints can stand tremendous shocks, even the bones are strengthened with this form of training.

6. Strength improves skill.

7. Strength increases balance, judgment of space and distance.

8. Strength induces better control, better performance in any sport.

9. Strength increases speed, speed in running, speed in throwing, speed in all phases of performance.

10. Strength is the most important quality of a champion athlete.

11. The Bob Hoffman System of Functional Isometric Contraction is the fastest way to build strength. It produces strength 2 to 4 times as fast as other methods.

A tremendous number of athletes attest to the statements we have made. I have written several books on the subject, "Better Athletes Through Weight Training", has become a classic in the athletic field.

In a specialized book such as this, we cannot mention many men who have succeeded through strength building exercises. But it is enlightening to note, that the winners, the record breakers, are men who have trained for strength.

Among those whose stories are told in my book *Better Athletes* (400 pages, \$5.00 Strength and Health Publishing Co., York, Pa.) are Bob Richards and Don Bragg pole vaulters, Al Oerter, twice Olympic champion discus thrower, Parry O'Brien, twice Olympic champion shot putter, Al Cantello, who in one short year of strength training increased his javelin throw from 231 feet to a world record 282, Harold Connelly, Olympic champion hammer thrower and world record holder, Bob Backus who built his strength and weight from a meagre 140 pounds at his height of 6'5" to a herculean championship winning body of 275 pounds, who has won 19 national championships, and Dick Cleveland, who after a short period of strength building, set new world's records in swimming. He showed the way to the host of record breaking swimmers we have today. In baseball we tell of the results of strength building for Ted Williams, Lee Walls and pitcher Bob Feller, who was about to be released, and then after practicing strength building exercises, stayed in the big leagues for eight years longer. In football, there are Stan Jones, Pete Dawkins, and Billy Cannon. In golf, Frank Stranahan, in tennis, all the Davis Cup Australian players. In sport after sport the winners have built their strength, which also means their skill and endurance.

When a man like Tad Weed of Ohio State kicks 10,000 goals, the last one blind folded, you can be sure that he has trained for strength. When you hear of a forward passer, a hockey player, a batter, a basketball player, who leads the league, a leading batter in baseball, you can be sure that strength building exercises have played their part.

You who read this may have no desire or no opportunity to try to be a big league star. But you want to look well, feel well, and be a useful member of society. Perhaps you play golf at the country club, or play a little soft ball, or bowl with the company team.



Paul Anderson, "THE STRONGEST MAN IN THE WORLD," about to deep knee bend with 15,000 silver dollars, a total weight of 1000 pounds, which he offered to give to anyone who could duplicate his feat. In the lower photo, he lifts an entire chorus and orchestra in the hip lift style as he plays Dixie on the Trombone.

Winning is fun, you might as well be a winner, and the best way to be a winner is to practice strength building exercises.

Remember please, that Strength is the most important quality in every form of athletics or physical endeavor, endurance, the ability to continue this strength over a long period, coordination, control, balance, judgment of space and distance, which comes from strength building exercises, are roads to championship performance in every sport. More strength, and the ability to properly control that strength, through the practice of one's particular sport make it possible for the man with more strength to out do another.

This is not a mere theory, it has been proven on a thousand competitive fields, it has been proven in swimming pools, in long distance running and on the basketball court. Stronger men are those, who gather the honors, on the playing field, and in life too.

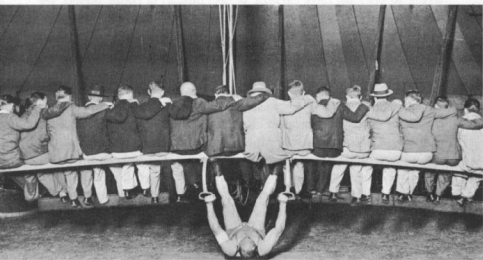
And the best way to build strength and muscle, which makes possible this coordinated skill in athletics, is the Functional Isometric Contraction Way.

In the past, many coaches have felt that they did not have time to build strength during the playing season. This way takes so little time that lack of time is no longer an excuse. After the regular practice, athletes in many sports perform their minimum three movements—one press, one pull, one knee bend—or the preferred, more result-producing six—two pulls, two presses, two knee bends—or the important five—one press, one pull, one bend, shoulder shrug, and raise on toes. Although there are many other exercises which can be practiced the Functional Isometric Contraction Way, these are the essential movements. They build strength in natural ways, in the ways that the body most often exerts force. After building all around strength and endurance with this simple system, you can practice the specific Functional Isometric Contraction exercises which will improve your performance in any sport.

The important thing is to make full use of this new training principle, this superior training principle. The practice of Func-



Andre Reverdy would amaze audiences by pulling a fully loaded auto with his teeth in "Ye Olden Days." This Isometric Exercise required good teeth, a strong neck and overall strength.



Herman Gorner supports 16 men; with the big board, at least 3,000 pounds. Great strength and balancing skill is required to perform a strength feat such as this. It is an Isometric exercise.

tional Isometric Contraction is spreading like wild fire. Teams which use this system are winning, teams which don't practice this new and better way are losing. In the future, more than ever, those who don't train the Functional Isometric Contraction Way will be pushed around, they will breathe the dust of those who outrun them, take the wash of those who outswim or outrow them, be an "also-played" in other sports.

You need a Functional Isometric Contraction Super Power Rack. One should be in every country club locker room, where the golfers and the tennis players, can spend a single minute developing their power. A thousand men can use one machine. There should be a number of these machines in every ball park, for football and baseball players, there should be one or more in every gymnasium where basketball is played, at every indoor and outdoor pool, anywhere that men or women come to participate in physical training. Functional Isometric Contraction Super Power Racks should be in every office, a far better way to spend a minute than with the overeating of the coffee break. Our communist enemies who are trying to bury us, have exercise breaks instead of coffee breaks, we have to fight back, let's build our strength too, this better, this faster way.

There should be Functional Isometric Contraction Super Power Racks in every home, in every playground, every grade school, every high school, every university. We are making good progress toward having them on every submarine, every ship, at all training camps for our armed forces. This method of training is a real breakthrough, a way which will rapidly build not only better athletes, but a better and stronger America. Do your part to keep this wonderful training system moving, tell everyone about it, the man who works next to you, everyone with whom you come in contact.

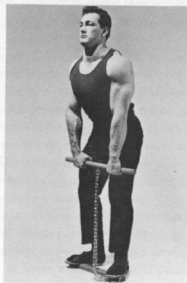
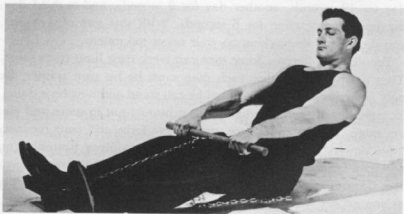
That is why I worked out the Medium, Light and Heavy system in weight training. If you have a rack which permits weight training with movement, you can exert yourself to the limit once a week, do 80% of limit one day, and 60% of limit another day. If your

record was 250 in a maximum effort, you could do 200 on the 80% day, 150 on the 60% day.

But you can not do this if you are using one of the systems or the racks without movement. So that you do not work on your nerve too often, you can practice a form of Heavy, Medium and Light training by exerting maximum muscular contraction one day for 12 seconds, another day for 9 seconds, and a third day, maximum contraction for 6 seconds. With this sort of a system, you should not be working on your nerve too much.

People are different. Some men can work their limit more often. That is why we say that each man must be his own trainer, for only he knows how he feels, what he can stand and how he is doing. You get out of exercise what you put into it; put in more and you get more. If your endurance, your nerve force and your recuperative powers will permit considerable of maximum training, you will gain faster. But if you do not feel like a million the next morning, if you do not gain as rapidly as you feel you should, as rapidly as you expect, you will be wise to use some form of the Medium, Heavy and Light system.

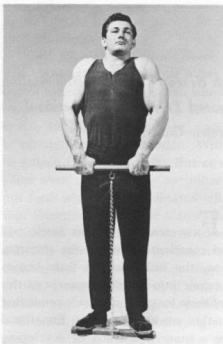
Verne Weaver with the F I C Strength Builder. Verne Weaver a neighbor of Bob Hoffman could not lift 100 pounds when he first purchased his York Barbell. But he grew rapidly in strength and health, in spite of his poor beginning. He became a weight lifting champion and a physique Contest winner. One of the best. We asked him to pose for the F I C Muscle Builder Course and on these two pages, you see the result.



Much Research and Experimentation Required To Develop Functional Isometric Contraction

F EW readers of this book will realize the time, the hard and conscientious work, the research, the study, the experimentation, the utilization of little known scientific principles, which has gone into the development of this system of training. As a result of these lengthy and result-producing experiments, all involved in this work agree that Functional Isometric Contraction is truly a superior method of developing strength.

One of the basic principles of the Functional Isometric Contraction system of training is that it develops maximum coordinated effort. It trains the muscles and the nervous system to give maximum coordinated effort in the position of the needed force. Bill March gained considerably in bodyweight and muscular development with his Isometric Contraction with Weights, but Louis Riecke gained mainly in strength. True enough, he has a magnificent physique, but he gained little in bodyweight. He weighed 179 when he started with Functional Isometric training. He competes in the 181 $\frac{3}{4}$ -pound class, and he was light in his class at the world's championships. Therefore it is evident, that while some of his gains may have been due to improved quality of muscle, his chief gain was in his ability to put forth an explosive effort, a maximum coordinated effort, utilizing more of the muscle



Last year, Bob Hoffman carried a portable chinning bar with him over most of the world. This year, he is obtaining superior results with this little Muscle Builder. It does even more than help one retain strength while travelling, it builds even greater strength. Athletes who use the Super Power Rack at school, the gym or the club, can use this Muscle Builder on intervening days to speed strength and muscle building progress.



fibres directly involved in the lift than he was able to utilize in the beginning.

While his gains in lifting were sensational, they bridged the gap between the lifts of just a fair lifter, a district champion, to one of the world's best, a man who made one of the highest lifting totals on record. His gain in the deep knee bend was not sensational, 450 starting poundage, compared to 480 at the expiration of his training demonstration. With his static resistance training he gained from 450 to 480. But as we have been stating, his chief gains were in his ability to utilize more functional strength, to put forth a mighty coordinated effort. His success well illustrates that Functional Isometric Contraction training which teaches the muscles to exert superior force where force is needed and desired will help other athletes in bettering their previous best marks in their events no matter what they may be—jump higher, jump farther, throw the discus, put the shot, hurl the javelin, pole vault higher, swim faster, in short, perform better in any athletic sport.

The old method of developing strength did not develop maximum functional strength in the position in which the strength was to be used. Functional Isometric Contraction trains the muscles and the nervous system to respond to their maximum in a functional position. This training for maximum coordinated effort is one of the new concepts of training. It trains the muscles to exert an explosive strength in the desired direction. The ability to put forth this superior effort marks the champion in every branch of sport. This concept of training as incorporated in the Functional Isometric Contraction System, results in greater strength and new records.

One of the important factors in the athletic success of men such as the Russian high jumper Valeri Brumel, Jay Sylvester, Louie Riecke and Juri Vlasov is their ability to put forth greater functional strength. Functional strength is having the strength in the body positions where the strength is needed and is used. The Functional Isometric Contraction system develops functional strength by causing the athlete to execute all exercises in the

position of movement used in his particular sport. All coaches and athletes have seen men who looked strong, but were not strong, did not compare favorably with men who seemed to be better developed. The men I have just enumerated are such men. Brumel is only about 6'-1", yet he broke the established rule that a man could not jump over a foot higher than his head by recently jumping 15" higher. Those who know Jay Sylvester, and note his comparatively slender build, are amazed at his ability to exceed world's records. In my opinion, holding a world record in your sport is the greatest feat in the realm of sport. When a man is world champion, he is the best man in the competition that day; when he is a world record holder, he is the best man in that event of all time, past and present. Brumel is good, but he jumped less than an inch higher than John Thomas, while Jay Sylvester tossed the discus 16 feet farther than any other man. A miracle of skill, coordination and explosive functional strength.

Recently 35-year-old Louis Riecke, in snatching 305, made the highest snatch ever made by an American of his weight. He exceeded Jim George's former long standing world record of 303½. Only one man in the world has made a higher lift in this style than Louie Riecke, and Louie will break that record any day now. This is a true example of functional strength, for Louie does not look strong enough to lift so sensationally.

Men who look strong and do not perform well lack functional strength. They have isolated strength. They will never be great athletes unless through training the way we are outlining in this book, they develop the superior type of explosive strength and the quickest and surest way to develop functional strength is through this Functional Isometric Contraction System of Training.

The Functional Isometric Contraction System combined with training with weights is a superior method of strength and muscle building which comes as the culmination of many years of effort, many years of scientific study, years of experimentation and practice, and most important of all, because we had the inspiration to apply maximum static resistance utilizing the Functional

Isometric principle. It is a superior method of building great strength and unusual muscular development.

The Functional Isometric Contraction System, combined with Isometric Training with Weights, works on the principle that only through progressive training with very heavy weight resistance can super strength and the maximum of muscular development be built. There must be a constant effort to work against more and more weight resistance. It is nature's way to meet demands made upon the muscles, so that they will become stronger and more enduring. Only with progressive weight training can physical progress be measured accurately, almost with micrometer-like precision.

With the combined Functional Isometric Contraction and Isometric Contraction with Weights you can continue to train with very heavy weights and heavy resistance. In fact, progressively heavier weights and weight resistance can be used day after day. With the usual training system you practice many exercises and perform many of them in sets. Although it is desirable to follow this system at times (once a week will serve well), during most of your training periods you can train the Functional Isometric Contraction Way, or with Isometric Contraction with Weights.



Louis Riecke measuring his progress by means of a strength testing device in regular use at L.S.U. Dr. Francis Drury, observes the result of the strength test.

With this method of Functional Isometric Contraction and Isometric Contraction with Heavy Weights, the muscles do not tire, although subjected to the limit of force. Rather there is a feeling of exhilaration, of well-being at the end of the training period. Your muscles start immediately to grow in strength and are ready and able to perform even harder work the next day, and the next, and greater work as the days pass. With the usual system much time is lost waiting for the muscles to become rested. A muscle will not increase in size and strength after demands have been made upon it by the ordinary training methods until it is thoroughly rested. This may take 24 to 36 hours. With Functional Isometric Contraction training, as the muscles do not become tired, they start to grow in strength immediately. This makes it possible to train twice as often, five or six days a week instead of the usual three times, and the muscles will grow not only twice as fast from twice as much training, but often will grow two to four times as fast. Five per cent gain in strength per week is average for beginners, doubling one's strength in twenty weeks.



Important Facts About Functional Isometric Contraction Training

MANY people wonder how a single exercise without movement can produce superior results to an exercise with movement. Let's consider movements such as the weightlifting movements of the curl and press. Only one or two seconds are required to make a curl from the thighs to chin height. The hardest part of the curl is not the start or the finish; it is about the middle of the curl, where leverage causes the greatest effort. Yet the muscles are in this position for only a fraction of a second. With Functional Isometric Contraction, they are exerting full force in this position for 12 seconds, so one effort can build as much strength as more than a dozen full movements. The condition in the press is the same. You have the easy start, and the easy finish. The middle of the lift is the sticking point, the hardest part of the press. In actual lifting the bell is in this position only a fraction of a second. In training the Functional Isometric Contraction way the bar is held against maximum resistance for 12 seconds, so one supreme effort has more muscle-building effect than a dozen complete efforts with movement. This is one of the chief reasons why Functional Isometric Contraction training brings superior results.

Since neither the muscle or the object moves in the practice of Functional Isometric Contraction exercises, many may wonder how this strength can be used with movement such as throwing or hitting a baseball, throwing a football, sprinting, fast starting, putting the shot, throwing the discus, throwing the javelin, high jumping, speed swimming and many other athletic events. Functional Isometric Contraction builds strength in the position or direction in which the effort with movement is to be expended. As previously explained, maximum strength is developed in the various parts of the movement, the most important, result-producing parts of the movement. The constant effort to apply ever greater force teaches the mind and the muscle to work together, a good part of any athletic event, particularly lifting or throwing weights, is in the mind. The fact does remain that records go up and up, higher, farther, faster, yet men have the same number of arms and legs, apparently the same potential physical possibilities. The ability to apply functional strength is the major difference. This strength is motivated by the mind. A large part of the exertion of strength is mental. We do know that a person under great stress, such as a drowning person, a frightened or terrorized person, a person faced with a great emergency, can exert far more strength than normal. Functional Isometric Contraction training develops the ability to apply a greater effort, a more supreme effort in any athletic sport, so that the trainee can perform in a superior manner.

The chief reason why people exercise is because it makes them feel better and look better. Of course exercise makes one much stronger, builds athletic ability and endurance, but the majority will be happy to feel better and to look better. Training the Functional Isometric Contraction Way is a good way to make one feel better and look better.

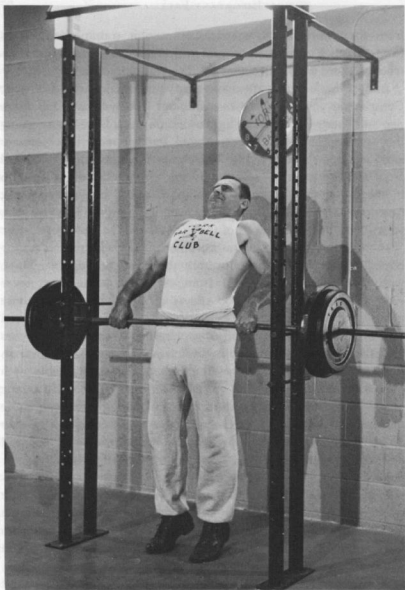
Doctors in rehabilitation work, treating handicapped people, and trainers in treating athletic injuries have definitely proven that Functional Isometric Contraction is the best means of curing injuries. Muscle strains, sprains and pains come from supreme effort with movement and of course with contact. They are cured because the major effects of exercise, improved circulation, results

from the Functional Isometric Contraction training as well as from exercises of movement, and with Functional Isometric Contraction there is no movement to hurt the injured part.

Almost immediately after you start your practice with Isometric Contraction you will feel like a million. You will have lots more pep and energy, you will be lighter on your feet, have a new spring in your step. You will feel younger, look younger, act younger and have a new zest for living. This comes about because Functional Isometric Contraction training is not tiring. It builds strength in the muscles, it improves circulation, builds internal strength, functional and organic strength, as well as strength in the muscles which help in the functions of the body.

In addition to athletic improvement, you will receive many happy, even thrilling benefits from this form of exercise. Those who practice the Functional Isometric Contraction way never cease to tell others how good they feel, never cease to enthuse about their new resurgence of strength and energy, their improved endurance. You will feel simply wonderful. Much of this comes about as you stretch the muscles, stretch and align the back through the hanging exercise and the frog kick, which are possible with the chinning bar and the various Hoffman Isometric-Isotonic Super Power Racks. As we think that this hanging exercise is the most result-producing exercise in the entire course, Hoffman Super Power Racks are built to include this feature. If you did nothing but walk away from your desk, if you are an office man or are going to school, and hang on the bar for a few seconds, providing you have a Super Power Rack where you can use it, you will be amazed at how much better you will feel, the relaxation and the elimination of fatigue you experience. Much fatigue comes from cramped muscles which stay too long in one position. You will find that this hanging exercise greatly improves posture, takes the slump out of walking or sitting. When you sit and stand straight, the body can function better, the internal organs are not cramped, the back is not strained. Improved posture is one of the finest results of this type of exercise.

You benefit greatly from the stimulus to the nervous system



Steve Stanko, the first man in the world to total over 1000, (1940), 310 press, 310 snatch, 382 clean and jerk. After injuring his legs, he turned body builder, won the Mr. America title and was the first Mr. Universe, 1947. He trains 5 times a week with the Hoffman Isometric-Isotonic Super Power Rack and continues to improve.

which takes place as you put forth a maximum effort the Functional Isometric Contraction Way. This stimulus remains with you for a time and makes you feel like a million. It is just another of the major benefits of this form of exercise. You will overcome the effects of old injuries, even arthritic pains.

Although some researchers seem to find that good results can be had with their recommended 60 or 80% of limit, we think that this brings results only for beginners. We believe that advanced men should exert full pressure in their exercises. In fact, favorable results are obtained in direct relation to your developed ability to exert maximum effort. It is so easy to make a half-hearted effort, harder to make a terrific effort. The maximum effort brings more muscle fibres into action and of course, greater results. It has been estimated that each person, man or woman, has three trillion cells which are a part of four billion muscular fibres, in their bodies. Many of these fibres are never used throughout normal life. Functional Isometric Contraction with the application of limit pressure will bring more of these muscular fibres into action, and thus make the trainee stronger, make it possible for him to lift more weights or to perform better in his particular sport. With Functional Isometric Contraction because the muscles are conditioned to apply maximum force where force is needed and desired, greater strength is built. But to build this strength, you must put forth a great effort, that is if you are seeking to build the limit of power. If you are satisfied to be just two or three times as strong as the average man, to look good in street, athletic or beach clothing, you do not have to work so hard. Shorter periods of training will less effort, spaced over wider intervals, will bring you the results which will satisfy you. If you want more strength and muscle, more athletic ability, you will find it advantageous to practice, Functional Isometric Contraction with weights, Muscle Contraction with Limited Movement, and Muscle Contraction with Unlimited Movement.

For the average man, as distinguished from the competitive athlete, the Isometric exercise principle has been called a national salvation by some of the nation's ranking physical training authorities.

On My round the world trips, I trained when I could and where I could. Everywhere I found things to push on or pull on. As a result I have kept in magnificent condition. In Tokyo, at the Imperial Hotel, there was a steel rod which divided the bathroom, and I could do many exercises on that rod. Outside of the building where the weightlifting championships were being held, I found a bar where I could practice the frog kick. With the doorway bar I always carry, I could do a fair number of exercises, but not the frog kick. In Leningrad I used braces which held up the stands that had been erected for the weightlifting contest between our team and the Soviet team. In many cities I visited the leading gyms and there was always a horizontal bar of some sort. In Warsaw, it was a scaffold which had been erected so that the outside of the big educational building could be cleaned. Perhaps some of the passers-by thought I was a bit crazy as I did my frog kicks, but I had my strength and health building exercises just the same. The hanging exercise, where the legs are pulled up with the frog kick, is the exercise I urged President Kennedy to use to strengthen his back. It is my favorite and it has done me a lot of good. I wrote to the President from Hong Kong, Tokyo, Honolulu, and Cali, Columbia. They say dropping water wears away the stone. I hope that constantly suggesting this exercise will persuade the President to practice it. Muscles are necessary to support the body in the upright position. Thousands of those who read about this exercise in the papers of the world and saw photos of me doing the frog kick in Tokyo, have practiced this exercise with good benefit for themselves.

In Katawice, Poland, while the contest between the United States team and the Polish team was in progress, I had one of the best workouts of my life. Between lifts, I was practicing Functional Isometric Contraction exercises. There was a stairway, with an iron railing, at the back of the stage, which made a turn as it came upon the stage where the competition was taking place. This permitted the dead weight lift at various positions, also a variety of curls, back hand, regular and thumbs up. There was a low ceiling as I got off the stairs, and I could press there, and a door-

way where I could perform a number of exercises.

Around your home and in hotel rooms, you will find a number of things to push and pull against. But be careful, you can pull a bathtub or a wash-basin loose from its fastenings, or even push a partition down. There is always a doorway in the room, and that permits a number of good result-producing exercises as we will illustrate with the courses included with this book.

We were the first to have scientifically proven the worth of the Functional Isometric training principle with heavy resistance, and with weights, as this is the only way the trainee can be sure what he is doing. There is no good and sure way to tell the amount of resistance being worked with without weights to measure progress.

Our results with the heaviest kind of Functional Isometric Training have made obsolete all of the Isometric exercises which had gone before. These results have been sensational. I am actually awestruck at the miracles that our form of heavy training the Isometric Contraction way has already wrought. Muscles with all their health-giving and health-maintaining qualities, with their potential athletic ability, grow before the eyes, almost as fast as mushrooms grow when conditions are favorable. I am amazed at the speed with which it develops great strength, improved functional condition and all-around physical ability. Had you seen the miracles I have seen as a result of this system of training, you too would be as thrilled, as excited, as happy as I am.

Don't Overwork

MANY lifters and other trainees train too hard. They fatigue themselves beyond recovery between workouts. All of their energy is used in recovering from their workout, rather than developing more strength. Stimulate your muscles for development but don't approach complete fatigue. These facts are the reason we have repeatedly offered the advice to not work on your nerve too often. Yet if you don't make maximum effort at times, make maximum demands, you can not expect to gain in strength and muscle as you desire. That is why we say that you must be your own trainer, we can tell you what to do, offer advice and instruction, but only you know how you feel, only you know how much you can stand of hard training, without retarding your overall progress.

The chief advantage of Functional Isometric Contraction is that it does not make you tired. Instead of waiting a full day before you can exercise again, you can exercise the following day and continue training day after day. In fact, Functional Isometric Contraction can usually be successfully practiced on the days between your regular workouts. With this system you will double or quadruple your progress.

You must remember however, that you can do too much of Isometric Contraction. It seems so easy, it does not tire you, that

you feel like going on and on, performing exercise after exercise, trying to speed your progress at a still greater rate. So if you do not find yourself continuing to gain as rapidly as you did at first, or as rapidly as you expect, take stock of yourself. Perhaps you have been working too hard, in your enthusiasm. Take things easier for a while. Perform less exercises on your regular weight training days. Be sure that you do not have more than one limit day a week, more than one really hard day. Use the Medium, Light and Heavy System.

If you are practicing with Pure Functional Isometric Contraction, you will have to judge just how much effort you are expending, if you are practicing Isometric Contraction with weights, pulling or pressing the weight against the pins, you can use limit, $4/5$ ths of limit, $3/5$ ths of limit on your light day. For instance, in exercises in which I use 500 pounds on my heavy days, I use 400 on the medium day and take it easy with 300 pounds on the light day. When I feel strong and energetic again, I may use maximum poundages day after training day.

All research seems to prove that one hard contraction a day is enough stimulus to develop the muscle to it's maximum, any work beyond this tends to hinder development rather than help development.

Nature's way of developing strength is to stimulate the muscles and the nervous system by a hard contraction for a short period of time. You will note this particularly in all animals of the cat tribe, dogs as well, they stretch hard with their mid section against the floor, stretch hard with the back raised. Complete fatigue hinders development rather than aiding development. One of the basic scientific principles upon which Functional Isometric Contraction is based, is maximum stimulation of the muscular and nervous system, without causing complete fatigue.

You should gradually improve your physical condition through Functional Isometric training, to the point where you can pull and push with a maximum effort, putting a super human effort back of trying to push a little harder, or trying to pull a little harder.

I like the Isometric Contraction system with weights, perhaps

because I have been a weight lifter for over fifty years, but also because it is the only way that you can determine exactly what you are doing, how much weight resistance you are exerting. When you set the pin above the loaded bar, and you pull or push up to the pins, and you know how much weight you have on the bar, you can keep a record of it, and determine your progress. You cannot be sure whether you are putting forth a maximum effort when you are working against an immovable object. You might take things too easy to get maximum results, and it is possible, in the beginning that you can pull or push too hard, hard enough to pull a muscle in some manner. With Isometric Contraction Training with Weights, you can measure your progress as you train progressively.

Remember that the body must overcome fatigue first, before it can build its cells and its tissues. The greater the stress to which the muscles and the body have been subjected, the longer time is required for it to recuperate. There is no growth until complete rest has occurred.

Those who have the happy faculty to recuperate faster, will gain faster. Usually the one who gains fastest is he who follows the rules of healthful living closely. One of the most important rules is to supply the body with the nutritional elements it needs for body building, for maintenance and repair. The body will not build itself until all bodily needs for heat, energy, maintenance and repair are satisfied. So to gain your physical desires, make sure that your body is well nourished.

The author of this book was the first to plan and demonstrate the full value of the Functional Isometric Contraction System, with weights, with real exercise and the Super Power Rack. It is an easy, quick, result-producing system of training. Our problem now is to make full use of these wonderful principles of training about which we have been writing. It will benefit all athletes, as well as Mr. and Mrs. Average American. It will build a stronger and healthier America, A more durable America, filled with courageous, enduring men and women, the type of people we need in these troubled times and in the foreseeable future.

Isometric training is a great builder of endurance. It not only builds strength in the muscles, but it so greatly improves functional strength, including organic strength, that a great deal more endurance is developed. This increase in endurance has been reported by many of those who are training the Functional Isometric Contraction Way.

Functional Isometric Contraction so greatly increases the strength of the muscles that it is much easier to perform any task to which they are subjected. When a motor car is designed to go 100 miles an hour, it is easy for it to go fifty miles an hour. Similarly, when the human body is made to be twice as strong, it is very easy for it to do the day's work, to run, to jump, to swim, or continue with any other athletic endeavor. There is an improvement in organic strength too, for when the muscle is placed under extreme stress or tension, it must be supplied with fuel, oxygen and blood sugar to carry on it's work. The capillaries are enlarged to do this added work, and the heart is activated to keep the muscles supplied. Although the lungs do not do as much work with these static exercises as in running a hundred yard dash, there is a considerable acceleration of breathing when the muscles are subjected to extreme tension for 12 seconds.

I saw Norbert Roy immediately after he had run a half mile through soft ground and although he was breathing fairly hard as he came up to me and stopped his run, in a few seconds his breathing was normal. He told me, that although he has gained weight since the inception of Functional Isometric Training, the added weight is high quality muscle, and he runs so much easier, and without fatigue.

Bob Pettit said that he finds it less tiring to play basketball, since he has a fair share of Functional Isometric Muscles. All of the devotees of Functional Isometric Training marvel at the spring, the energy in their legs and feet, and as this makes walking and running so easy they have more endurance.

After only six Isometric workouts when I first started, using just 165 pounds in the toe raise, I found it very easy to climb to the twentieth floor of the Stevens hotel in Chicago. It was summer,

and I was a little warm, but not tired. Before Functional Isometric Contraction training, I found 7 or 8 floors to be about enough.

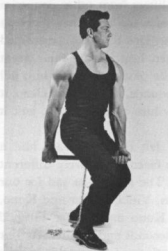
Just four weeks later, I tried myself out again and climbed 50 floors with a pair of ten pound dumbbells in my hands. I feel that much of this should be credited to Functional Isometric Training.

You too will be pleased at your increased endurance when you train the Functional Isometric Contraction Way. When the body becomes accustomed to handling hundreds of pounds of static resistance, it builds strength which makes the handling of body weight an easy, tireless task.

The Russians and Functional Isometric Contraction

I WENT to Milano, Italy in May of 1960, to see the European championships in weightlifting. My main purpose was to see how the lifters from other countries were shaping up, see how our chances were to defeat them at Rome. What I saw, was not so much. The Russians performed poorly, all were far from their expected best. I saw their great new heavyweight Vlasov, fall all over the platform. I saw him fail to clean (pull to the shoulders) 407 pounds, I saw him clean it and fail to jerk it to arms length, I saw him clean it again, jerk it and not hold it for two seconds.

With this very ordinary showing, I felt that our team had a good chance to win. But at Rome, we faced an entirely different Russian team, just three months later. The result was sad for our team, we had three Olympic champions, Vinci, Berger and Kono, but Vinci was the only one to win, Kono and Berger finished second, over all our score was 1 first, 4 seconds and 2 thirds, for our 7 man team, not too bad against 55 nations of the world, but we did not win, our team was Olympic champion in 1948 at London, 1952 at Helsinki, 1956 at Melbourne. True enough the competition was keen, our fellows who were second, lifted more than the winning totals at Melbourne, but they did not win, and that is what counts for the record. So I ask, what happened?



Verne Weaver, demonstrating the exercises of the Functional Isometric Contraction Strength Builder. This simple device, which weighs a little over 2 pounds, is strong enough for a 300 pound press, 300 pound pull, or 300 pound bend. It is a very useful exerciser which can be used by anyone to build a good share of strength, health and muscle.



I went to Russia twice to find out. Fortunately we were invited to come to the invitational world's championship at Moscow in March, and it was our turn to visit Russia for some team contests. We had been the first American team to compete in Russia, this being in 1955, the Russian team came to the United States in 1958, for matches in New York, Chicago and Detroit. This year I had a good chance to look around in Moscow, Leningrad, Kiev and Bilisi. Our team did well in Moscow, three men, three world's championships, Kono and Berger beat the Olympic champions, Bradford won also, but that did not keep the Russians from being Olympic champions. I saw that the Russians had power racks in every gymnasium, patterned after the design we had written about so much in the past. I saw that all of the lifters were practicing what we call, Muscle Contraction With Limited Movement. I suspected that the Russians knew more. I snooped a little. I had seen the full page photo of Vlasov in Life magazine, behind him was pictured a Power rack which looked like an Isometric Rack to me. When I gave him the copy of Life which contained his picture, Vlasov said, "they should not have used that picture". "Why not," I asked. He said, "they promised not to use it." I came back, "What is it a secret? A secret training system?" I came direct to the point, I asked Vlasov, who had become my very good friend over a period of years, if he had the Power Rack at home. He said, no, it was at the gym where he trains. I asked if I could see it. At first he was not so sure. But I said, "If you are going to have secrets we will have secrets too. If you don't show us what you are doing, we will not tell you how we are training." Then he said that he would take me to see the rack. But a little while later, he reconsidered. He said, "the rack is in a military establishment, and I cannot take you in without getting special permission, today is Saturday and I cannot get that permission, I will show it to you some other time." There was no other time, we were leaving in the morning, but I had seen and heard enough. I was not through with my interrogation. "How come you have gained so much faster than most of your lifters?" I asked. He replied, "I train a little different." I said, "I know you do."

Here was a man who had difficulty cleaning and jerking 407 in May, in August he made a new world record with 445, the following March, he cleaned and jerked to arms length 462. Progress which was too rapid for ordinary training. I was just as sure as I am sitting here, that he was using the Functional Isometric Contraction System. That others were using it too, and that it accounted for the sensational improvement the Russians showed at Rome. I have known the Russians well since we had our first competition with them in 1946, we have had 21 competitions with them. I feel sure that I have seen more of them than any other American sportsman. I know them well enough to ask questions and to joke with them if I do not get the right answer. I bluntly put the question to all of them and sort of enjoyed seeing them squirm as they tried to be nice, but not to disclose any secrets.

I saw considerable of Valeri Brumel, the great high jumper. He came around to see me three times before he caught up with me, he wanted me to autograph two of my books, *Better Athletes* and the *Weight Lifting Book*. He said that he is my pupil, that he could only jump 6'-6" when he first received his copy of this book, and with the exercises in my book, and other training which he did, he succeeded with a jump of 7'-4½", which at present is the world's record.

I am firmly convinced that the Russians have been using their version of Functional Isometric Contraction to their great benefit. To keep ahead of them, we must do the same. 7 weeks in Russia this year was a lot of time to take out of my busy life, but it was worth it. It showed that we are on the right track, and we feel that we have a better version of Functional Isometric Contraction than they. All of my books have been translated into Russian, this one will be too. We used this principle to our great benefit secretly for more than a year before we wrote a word about it. We told our lifters and our friends, orally, how to train. We did not want to publish the facts of this system of training and have the Russians learn what we are doing. But it started to leak out, so we had to tell about it as fast as we could. We must move fast, make use of this great system of training, use it as regularly and as

scientifically as possible. As I briefly mentioned before, the Russians have Power Racks similar to ours which can be used for Functional Isometric training. We hope that very soon all athletic centers in this country will have Super Power Racks, so that our fellows will have an equal chance with the Russians. I feel that training systems being even, our athletes can continue to win, owing to their natural courage, desire to win, and natural athletic ability.



In this picture, Bob Hoffman is introducing Tommy Kono to Valeri Brumel the world record holder in the high jump, $7'4\frac{1}{2}"$. Tommy had just won the world's invitational weightlifting championship in Moscow (1961), establishing two world's records. When it was announced that Tommy Kono was Bob Hoffman's pupil, Brumel said, "I am Bob Hoffman's pupil too. I could only high jump $6'6"$ when I started to practice the exercises for high jumpers in the Hoffman book, *BETTER ATHLETES*, now I high jump $7'4\frac{1}{2}"$."

Functional Isometric Contraction Success

THE incredible improvement of Bill March and Louis Riecke, caused a rapid expansion in the use of the Isometric principle in training other athletes in a diversity of sports. Any athlete will improve at his chosen sport through the proper application of the Functional Isometric Contraction Training principles. The exceptional improvement in our first two now world famous athletes, Bill March, and Louis Riecke, 34 years of age at the time, a man who had lifted for many years, a man supposedly past his prime, partially opened the flood gates to this new form of training, but up to this time it is still a tiny trickle. It will go forward with increased volume, for the knowledge of and the use of Functional Isometric Contraction in sport and athletic circles is travelling like wild fire.

One of our associates, Alvin Roy, trainer of the U. S. Olympic team, and a member of world's championship teams, and a vice-president of the Bob Hoffman Foundation, started his nephew, Norbert Roy, upon the Functional Isometric System of training, last summer. Norbert Roy was a pretty fair physical specimen, good enough to receive honorable mention on a number of all American teams, and to be selected as Co-Captain of the great Notre Dame Football team. As Dr. Drury, one of the pioneers in Functional Isometric Contraction and also a Vice-President of

the Hoffman Foundation is also in Baton Rouge, he is a professor of Physiology and Physical Education at L.S.U. I make regular trips to Baton Rouge to do all we can to advance the use of Functional Isometric Contraction, which is a major part of our Bob Hoffman Foundation work, which is designed to build a stronger and healthier America, notably better Athletes and better weight lifters. On several of these trips, I trained with Norbert Roy and Bob Pettit, the world famous professional basketball player, selected three times as the greatest professional player, a member of the Pro All American team for every one of the years he has been a professional basketball player.

In spite of being a good physical specimen, Norbert Roy during his summers training greatly improved his body. He built super strength, as well proven by the fact that in the 1/8th bend, he bent a Berg international weight lifting bar to the point of no return. His neck grew from 16½ inches to 19¾. When he got back to school, his coach looked at him once and said, "what have you been doing?" Norbert told him of the Functional Isometric Contraction training, and immediately the whole team started to practice this system. But it was late, while Norbert Roy had been training all summer, the Notre Dame team, only started the middle of September. Yet they got good results. They lost a couple of hard luck games, which will happen to a team which plays a top flight schedule, with never a let down from the beginning to the end of the season. I think one of their best demonstrations was in their game with Michigan State, the number one team in the nation, according to the polls. Although Notre Dame lost this game 17 to 7, it was not through the line, where our Isometric boys were working. Actually in the first half, the great Michigan state team, made an overall gain of just one yard. They won the game through two intercepted passes, and a field goal, something that our Functional Isometric Contraction Training can not control.

The L S U team was the first to properly apply the Functional Isometric training system to their training. With Dr. Drury, with Al Roy, with Al Broussard, the Olympic team trainer as well as

the L S U trainer, with Louis Riecke, a graduate of L S U, and a football fanatic, living just a few miles away in New Orleans, a lot of functional isometric know how has gone into the training of the L S U team. As this is written, L S U is rated 3rd in the nation. They lost one game. It is sort of a case of the Irresistible force meeting the immovable object when two Isometric teams get together. Old Miss, has long been using the Isometric principles in some ways, they have not come to the Hoffman Isometric-Isotonic Super Power Rack as yet, and when they do they will be even better. L S U had hoped, since they were the first to use the Functional Isometric Principle as we advocate it's use, that they might have another national championship season, but just one accident, one touchdown can and did mar their season, cause their one loss. But they will continue to do well.

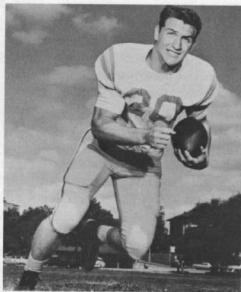
N.Y.U. was the first college to install a Hoffman Isometric-Isotonic Super Power rack. All of their athletes are using it. Notably, their young weight man, Gary Gubner, who is building up to win the title, Strongest man in the world. This young man is only 18,



Billy Cannon, L.S.U. graduate, now with the Houston Oilers. We believe he deserves the title, "Fastest big man of all time," for he has an official clocking for a hundred yards, of 9.4 seconds, at a bodyweight of 212 pounds. Paul Dietzel his coach at L.S.U. told the author of this book that he believes, with special training, Billy Cannon could run 100 yards in 9 seconds, 2/10ths less than the present world record held by Frank Budd of Villa Nova. On the opposite page is shown an action photo of Billy Cannon. Billy was selected All American, given the Heisman trophy as the best player of the year, and later was picked as "All Pro". He does everything well, blocks, runs, throws and catches passes, kicks, is a great all around player.

yet he has pressed 360, and cleaned and jerked 400, by far the best lifter and the strongest 18 year old the world has ever seen. At the Macabbee games, he won world's championships in three events, shot putting, discus throwing and heavyweight weight lifting. He is the only man to have scored such a record. It is his ambition to score a double or a triple victory at the Olympic games, winning the shot put and heavyweight lifting. He may do this, unless he runs into too many Isometric Contraction athletes in the process.

One of these is Jay Sylvester. I met both of these young men in Leningrad and Moscow, when they were there as members of the United States track and field team, and I was the coach of the American weight lifting team. Gubner had put the shot over 60 feet a number of times, and was tossing the discus over 180 feet. Jay Sylvester was the best discus thrower on the U. S. team, 192 feet and also a 60 foot shot putter. I talked to a number of the American team, talked hours to Sylvester and Gubner. Sylvester told me that he was a special service officer at Fort Ord in California, that he had done some Isometric contraction work, and



since I had shown him this new way, he would really put it into effect. Very soon he broke the world record in the discus throw, it had been over 196 feet and was held by a Polish athlete, he broke this record again and again, and his most recent toss was 212 feet, 20 feet farther than his record when I first talked Functional Isometric Contraction to him at Leningrad. 16 feet farther than the former worlds record. When one considers that the Olympic title was won with 184 feet by Al Oerter, and this new record is 212, it shows just how right I am when I have been telling the world for many months, that in the next two years, every record on the book in all sports, as well as weight lifting, will be broken again and again.

To keep up with the Functional Isometric Contraction boys, everyone will have to train the Functional Isometric Contraction Way. That's why I am so happy to have been a major part of the discovery and the utilization of this great new training principle, to have been the first one to tell about it, to write a course, for body builders and weight lifters, a course of 25,000 words, to write another course for the general public, **ONE MINUTE A DAY—THE FUNCTIONAL ISOMETRIC CONTRACTION WAY**, to write this book and to further show the way to Functional Isometric Contraction Training with additional specialized courses. I have completed, as this book is written, the Functional Isometric Contraction System for Football, a 40,000 word course, well illustrated with famous All American football players. My usual associates, Dr. Drury and Al Roy plus Olympic and L S U trainer Marty Broussard were of great help in preparing that book. I am planning other Specialized athletic courses, using the Functional Isometric Contraction Principles. I am about half through with a course of Functional Isometric Contraction for Golf, working with Jim Counsilman and John de Barbardillo, two of the nations greatest swimming coaches, I am well along with a Functional Isometric Contraction Training Course for Swimming. Bob Pettit, one of the greatest basketball players of all time is working with me on the Functional Isometric Contraction System for Basketball, Jumbo Jim Elliot, world famous coach of the winningest

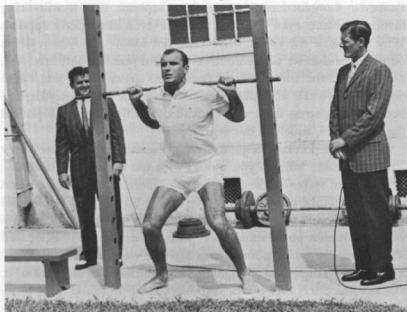
When I talked to Coach Jim Elliot in Moscow, and told him of the Functional Isometric Contraction system, being an alert coach, he did not waste a minute, he said, "bring down one of your Hoffman Isometric Isotonic Super Power Racks, we will put it into use immediately." It took me a while to get around, 552 holes are drilled in each one of these racks, all through steel and it is a task of considerable magnitude to build one of these super racks, but I finally got around to Villa Nova and all the great athletes at that school are working with the new system.

If space was unlimited I could continue with many other examples, but you will read about them in the papers, the important thing is that you make up your mind to start right now, don't delay, while you are delaying, the other fellow will be getting ahead of you with his Functional Isometric training. The Functional Isometric Contraction principle is so superior that it will bring favorable results even when partially, or even improperly applied. Why not come the entire way? Why not follow the system as we outline it and as we advocate it? You might pull the bathtub loose, like I pulled the wash bowl in Leningrad out of place, you might do damage to the wall like our fellows did in Kiev, exerting full body and leg stress from wall to wall of the hallway, they pushed the wall down, much to our regret.

So build or purchase a good, strong, Functional Isometric Super Training Rack, train as you should with the Functional Isometric Contraction System, and practice your sport as often as you find it essential. Some of our lifters have done well with the Functional Isometric Contraction System four times a week, lifting once a week, some shot putters and other weight throwers have done well with Isometric training four times a week, weight tossing one day a week. If you need form training, you will have to do more of it, just as some lifters find it wise to do Isometric Training three times a week, lifting twice, others find that lifting three times and Isometric Contraction two times is best, some do two of each. You will have to be your own trainer to a degree, for you can see best how you are doing, and work out a system which is best for you.

track and field team in the nation, Villa Nova, is collaborating with me on the Functional Isometric Contraction System for Track and Field. I am happy to have been so placed that I can show the way to my athletic friends.

I trained with Bob Pettit on my visits to Baton Rouge. He is a giant of a man, and with the ten pounds of good solid muscle he gained in his four weeks of training at Al Roy's training center in Baton Rouge, his home town, he will be even a more formidable player. A professional basketball player has to be pretty rugged to succeed, and none succeed better in the all around playing of the game than Bob Pettit. I read in last night's paper that he is third in the league in scoring, second in rebounding. It is too early to tell just how well he will do with his new Isometric muscles, but you can be sure that it will be good.



Bob Pettit, training the Functional Isometric Contraction way at Al Roy's research and development center in Baton Rouge. Bob gained ten pounds with F I C training and had a very good season. He was selected as the most valuable player in the East-West game. Pretty good with Chamberlain, Cousy, Russel, Baylor, Robertson and other great players in the game. F I C training helped him.

More Facts About Functional Isometric Contraction

ANY of the suggested exercises and others that you may devise, can be practiced with the Hoffman Isometric-Isotonic Super Power Rack. In fact we do not know of a single exercise which can not be practiced on the Super Power Rack. There are three basic positions in every exercise, one about three inches above the starting position, one about three inches below the finishing position and in an intermediate position. Those who desire to build strength in more concentrated areas, may have two intermediate positions.

There is considerable debate at present among researchers, as to which contractional position is the most advantageous. Some believe that the position nearest extension brings superior results. But it is logical to believe that in the position where the muscle does the most work, is the superior position. For instance, in the press, the sticking point is about at top of head level, in the curl, the hardest position is in the middle position, in the pull, a very result producing part is the middle part where the lifter is raised on toes, shoulders raised, arms starting to bend, in the knee bend it also seems that more effort is required in the middle part of the bend. Therefore it is reasonable to believe that the middle part of the leg bend is the most efficacious. In a full movement, the weight resistance is only in the most difficult part for a fraction of

a second, in the practice of Functional Isometric Contraction, the resistance is applied with maximum force for from 9 to 12 seconds in the most result producing position. That is one of the chief reasons for the rapid gains in strength which result from the practice of this system of training, this system of exercise without movement.

In Functional Isometric Contraction, the constant effort to apply more force, teaches the mind and the muscles to work together, a good part of the success in any athletic event, is the work of the mind. Knowing that you can do it, helps greatly. My parting advice to one of our athletes as he goes out to make his effort, is the affirmative thought, "YOU CAN DO IT." The records go up and up, higher, farther, faster, yet apparently the same potential physical possibilities are possessed by all athletes. The ability to apply functional strength, is the major difference. This strength is motivated by the mind, a good share of a successful effort in any sport is in the mind, is motivated by the mind. Functional Isometric Contraction training develops the ability to apply a greater effort, a more supreme effort in any sport, so that the trainee can perform in a superior manner.

You will receive many happy, even thrilling benefits from this form of exercise. Those who practice the Functional Isometric Contraction Way, never cease to tell others about how good they feel, about their new resurgence of strength and energy, their improved endurance. You will feel wonderful. Much of this results from the stretching of the muscles, the stretching and realigning of the spine that comes from the hanging exercise, from the practice of the Frog kick. We think that this hanging exercise is perhaps the most result producing of the entire course. If you did nothing but practice this one exercise, you would be surprised at how much physical improvement it will provide, how much better you will feel. A half minute with this exercise will relax and strengthen the muscles. You will find too that this exercise greatly improves posture, takes the slump out of walking or sitting. When you sit and stand straight the body can function better, the internal organs are not cramped, the back is not strained. Improved posture is

one of the finest results of this type of exercises, one of the chief reasons why you look better and feel better, why you are healthier, when you exercise the Functional Isometric Contraction Way.

You benefit greatly from the stimulus to the nervous system which takes place as you put forth a maximum effort, the Functional Isometric Contraction Way. This stimulus remains with you for a time and gives you that "like a million feeling." Another of the major results of this type of exercise. You will also overcome the effects of old injuries, even eliminate arthritic pains. It has been proven for a long time that hanging will relieve much of the pain of arthritis. With the various Hoffman Isometric Super Power Racks, hanging by the hands, with the special attachment which permits chinning and parallel bar pressing, hanging by the feet as well as by the hands will greatly reduce or overcome arthritic pains.

As you progress with this form of training, you will find it to be one of the finest parts of your life. Don't be selfish, don't keep all of the benefits for yourself, tell others about it, urge them to obtain some of the benefits you are receiving from this form of training.

Functional Isometric Contraction Is Good For the Ladies Too

As more than half of the population of our great nation are females, to build a stronger and healthier America it is necessary that the female of the species be strong and healthy too. During all the years of *Strength and Health* magazine, we have published an article for the ladies, concerning building their strength, improving their health and figures, usually monthly. There might have been one or two misses in the thirty years of *Strength & Health*, but not many, for physical training for the ladies is so necessary that we have never ceased to try to persuade the fair sex to exercise.

But it has been hard to get the ladies to exercise. If they feel well, and look fairly well they are satisfied. And if they don't feel well, of course they can not exercise. It's a condition similar to the leaky roof, when it doesn't rain, it does not need fixing, and when it rains, you can't fix it.

But we should not accept as shallow an excuse such as this. The fair sex will be so much fairer, so much stronger, and so much healthier with a reasonable amount of exercise. Girls and women have the potential to be very strong. It has been proven that most any well developed woman, a tumbler or acrobatic dancer, can out push a man of her weight, on the gymnasium floor.

There have been some extraordinarily strong women, strong



Brenda Miller, who answers the telephone at the York Bar Bell Co. makes use of the training facilities too. Here she is doing an exercise which we recommend for all office girls, men too. Walk away from the desk and hang, a doorway bar will do, a portable super power rack is better, as other exercises can be performed. This type of exercise not only banishes fatigue, but prevents it, as it strengthens the muscles which hold, the body erect, improves the posture.

as most strong men. We had two girls in York, who with little training, did leg presses with one thousand pounds, one of them who weighed only 130 pounds, performed a dead weight lift with 325 pounds the first time she tried it. All through history, the women have done most of the work, the pulling and pushing, the carrying. Potentially women are strong, their muscles respond quickly to a minimum amount of exercise. Most women say, exercise, "I don't need exercise, I get plenty of exercise taking care of the children and doing the work around the house." My reply to this is, that work is not exercise, there are many millions of women doing housework in this nation, who turn out to be misshapen caricatures of what a woman should be. Exercise is different than work, work is tiring, even exhausting, devitalizing, exercise is energizing, it builds vigor, endurance, efficient and forcible power, develops the capacity for more work and more play, for more living, it eliminates that tired feeling which too many Americans constantly experience.

Many women use as an excuse, that they don't want to get muscles. I can assure you that muscles are hard to get, if a woman finds herself getting muscles, she can stop exercising. But we must remember that women look best when they have the proper collection of curves, and under every curve their is a muscle, no muscle, no attractive curves. But women do not get visible muscles, as a man does, this is the difference between the species. A woman can be strong, but also attractive and curvaceous. In my first big book, *How to be Strong, Healthy and Happy*, I answered this question by showing a good number of girl gymnasts and lady acrobats, tumblers and trapeze performers, acrobatic dancers, hand balancers, track stars, beautiful women, that any woman could wish to be like.

It is essential that women be strong, for there are strong women in all other countries. These are communist countries, whose avowed purpose is to smother us, to bury us, to defeat us. On my various trips to Russia I have always been surprised that there were so few men around. There are reasons of course, scores of millions of men were killed or imprisoned during the great war.



Brenda Miller again. Training with the F I C STRENGTH BUILDER. A few minutes training with this useful little exerciser, plus the hanging exercise, preferably with the Hoffman Frog Kick, provides a workout which will build health and retain that girlish figure.



Betty Blume, another secretary from Hackensack, N. J. taking a workout with a doorway bar. Notice she also performs valuable exercises within the doorway itself, not using a bar. If you have a doorway bar, hang on it, chin on it, or do any exercise everytime you pass through. It only takes a few seconds each time and you will receive considerable benefit.

Lots of them are in the army, and many more are working in manufacturing plants, so it seems that women do all the work.

In Kiev, for example, right on the main street, we saw a 15-inch water pipe being layed, and there was not a man on the job, women were doing all of the laborious work. In some of the new buildings, women are the brick layers, the hod carriers, the stone masons. I am not urging that we have such a system in our country, although it is one reason why the industrial growth in Russia is 8 per cent compared to our 3, more workers. In fact there are a great many more women doctors than men doctors. Women play a very important part in running Russia. So this does prove that women are strong.

Since we are farther advanced than many nations with our industrial machinery, it is not so necessary that women do more than their share of the nation's work, but it is necessary that they keep themselves strong and healthy.

Now women have time, and it would be better to spend a little of this time at body improvement exercises, rather than watching television, talking to friends and neighbors. Get the friends and neighbors over to the house to exercise with you The Functional Isometric Contraction way.

For with Functional Isometric Contraction we are offering a system of training which will bring outstanding results for the ladies, too, regardless of their age or starting condition. The hanging exercise is one of the greatest exercises ever devised. So many women are concerned about their waist lines, their legs, their busts, and here is an exercise which helps all of them. I have persuaded many ladies to perform these exercises, and have seen the favorable results. Weak backs have disappeared, as well as other major or minor complications. The hanging exercise alone is good. For this stretches all of the muscles, the muscles of the chest, and midsection. I know one woman, 42 years of age, who has done nothing else, and I can assure you that she has a figure which compares favorably with any 17-year old girl. And when the frog kick is made a part of this training system, the waist is made firm and shapely, fat leaves the buttocks, and the legs. This

one exercise is an exercising course in itself. So be sure that hanging from the bar is your first essential.

There are many other good exercises too. The minimum three, the double or triple three, with added exercises such as the raise on toes, the shoulder shrug, will give any woman a figure of which she can be proud, and better still it will give her a virility, pep and energy, which will please all with whom she comes in contact.

So fellows, urge the ladies of your household, your mother, your wife, your sister, your sister-in-law, your girl friends, to make use of this wonderful system of training.

Girls, watch the men of the household perform their exercises, if they don't have the proper equipment, urge them to build or purchase it. And when they are at work, perform these exercises yourself. Be secretive about it if you wish, and enjoy the surprise they will express as they see the vast physical improvement which results from this form of training. You'll have a better color in your face, firmer muscles over all of your body, your back will strengthen, your posture will improve, your vitality and endurance will increase. You will be a new woman, a much admired woman, I can assure you that even a minute a day of training the Functional Isometric Contraction Way, plus another minute for the hanging exercise with the frog kick, will make you look and feel like you never expected to look and feel again.

This wonderful system of training will produce millions of beautiful, magnificently built, super healthy, vital, enduring American women. As we have said before, let's make the most of it.

Strong, Attractive, Healthy Women

ON one of my trips to Russia I saw a big sports display where thousands of athletes, thousands of magnificently built men and women were in constant action. The display, the marching, the athletics, the calisthenics, continued from 10 A.M. until 8 P.M. As one group completed their demonstrations, they marched out, others took their places, the day long performance of these highly trained men and women well illustrated the splendid results which are being obtained from physical training in Russia.

When we first competed against the Russians in Paris and won the world's weight lifting championships, repeatedly the Russians said that they did not know that we had such men in America. We could easily say that we did not know that they had such women. The women we saw in this great display, were magnificent. Husky as compared to most of our women, the scores of thousands of women who took part in this one display would have been a revelation to most Americans if they had the opportunity we had to see them in action.

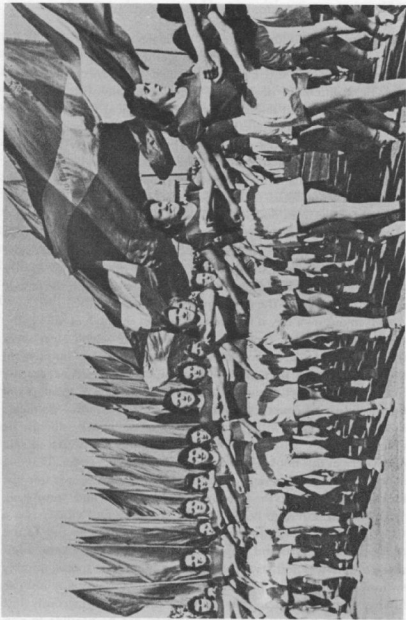
They were, without exception super physical specimens, strong, lithe, active, athletic, enduring, in many cases beautiful, in all cases they exhibited their super health and their vitality. They hustled along with their infectious smiles, swinging their arms,

raising the elbows to head height with each step. We should have more women like them in this country.

It is important that any nation have strong, healthy women, for as we stated before, at least half of any nation are women and they must do a good share of the nations work. The future of our country, the future strength of our people, depends more upon the mothers than the fathers of our race, Strong fathers beget strong sons it has been said, providing we have strong mothers too.

All Russian women do not take part in athletics, but a good many of them do. All women do a lot of physical work. The sexes are more equal in Russia, this equality permits or demands that the women work like the men. The engineer or the fireman of a locomotive is just as likely to be a woman. The manager of a collective farm, may be a woman, the chief engineer of a large industrial plant is frequently a representative of what we consider to be the fairer, but often the weaker sex. Side by side with the men, and sometimes alone, as we cited in the pipe laying in Kiev, they do the nation's work. This is not unusual for all through history the women have done most of the work, the men have done the fighting and the hunting. In many countries women are preparing to do the fighting too. The papers carry photos of women militia in Asia, women soldiers in Africa, women militia with gun's in Cuba. Courage is required to be a soldier, but most of all, strength and good physical condition, the result of much physical training.

It is not unusual that women throughout the world should be workers and soldiers, for in the animal kingdom for millions of years it has been proven that the female of the species is just as strong, just as enduring, just as courageous, even more deadly, just as willing and able to it's share of the work, it's share of hunting for food, it's share of protecting the young. A female elephant, camel, or horse, carries the same burden, owners and drivers in arranging the loads do not differentiate between the male and the female. Races are often won by mares, even in the illegal sport of dog fighting to the death, females are pitted against male



Soviet girls marching to the field for athletic competition.

champions and win just as often as the males.

All of this just proves, that anatomical differences do not make women the weaker sex, men the stronger. Differences in strength may be a difference in size, but they are usually a difference in physical training, in doing or not doing physical things. Women need not be the weaker sex, pound for pound, with proper physical training they can equal or surpass the male in many industrial activities, do well in sports activities too. Love and marriage is usually such a beautiful thing when proper mates get together, that it does not seem to be nice to compare people with farm animals but we must do a little thinking along this line. If a breeder of cattle, or horses, or sheep or hogs, concerned himself only with the male of the species what would be the result? No matter how magnificent the male, the resulting progeny would be far from a prize winner, certainly a poor specimen of the breed, if the female was not the equal or the near equal of the male.

And in our own life, if the women neglect themselves physically, continue to feel that they are the weaker sex, which gives them the privilege to take it easy, to loll around with little or no physical activity playing a part in their lives, abhorring exercise, fearing that they might get a muscle or two if they exercise, it augurs ill for the future of America. And if to this inactivity they permeate their blood stream with alcohol, with nicotine, we will not be able to keep up with the rest of the world physically. As we said else where in this book, Functional Isometric Contraction Training is not for today and even tomorrow, it is for always, it is not just for boys and men, it is for all of our people, the girls and women too.

To be attractive, to be well, to be enduring and vital, to be a Class A American, to do her full share in the present and future of America, the girls and women must include in their lives, a fair share of physical activity. There are many athletic sports, notably swimming, but also golf, tennis, volleyball, badminton, climbing, hiking, running, which can easily be fitted advantageously into the lives of our girls and women. It may not be possible to participate in these outdoor activities regularly, so it is doubly wise to make regular physical training a part of life, to prepare, to condi-

tion the muscles for the hour when there is an opportunity to take part in these physical activities. And of all forms of physical training and we fully recognize the fact that there are many desirable physical activities for them, there is no form of exercise which will benefit the women of the household more than the inclusion of Functional Isometric Contraction Exercises in the business of living.

This form of training, to which this book is dedicated, will require such a minimum of time, bring such a maximum of favorable results. In one minute a day of actual exercising time, physical transformations can be made. A strong, attractive, enduring female body will result from these exercises. The devotee of this form of training will feel better, perform better, look better, be better. Lack of time is no longer an excuse, it takes so little time. All of the family can make use of and profit from the use of Functional Isometric Contraction Training.



Norbert Roy, last years co-captain of the Notre Dame football team, in an Isometric pose, which shows what a 20 inch neck looks like.

Also pictured here is Al Roy, Norbert Roy's uncle, A vice president of the Bob Hoffman Foundation, who has done so much for physical training in America, especially football training.

Functional Isometric Contraction Advanced Course

WHAT we often term, Pure Functional Isometric Contraction, using only the bar without weights, static contraction against an immovable object, has been so simple. Although we believe that about 90% of those who seek greater strength, The Functional Isometric Contraction way, will train in this manner, without weights, we think that the estimated ten per cent who want the absolute limit in strength and development, in athletic skill, should have a share of this book.

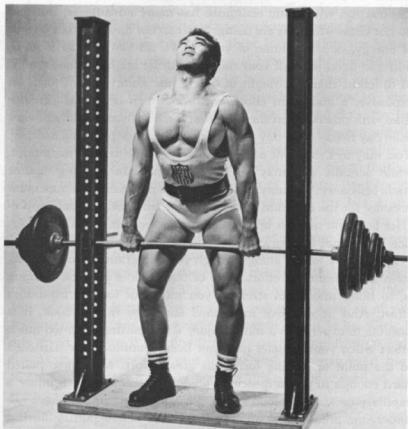
In the 25,000 word course of Functional Isometric Contraction for Body Builders and Weight Lifters, we came to a section where we said, "and now I come to by far the most difficult part of this course, telling you how to train with weights and the Hoffman Isometric-Isotonic Super Power Rack and its accessories." Isometric training with static resistance has been so simple. Yet, it is not the complete answer to obtaining your physical desires. Those who have done so well with Functional Isometric Contraction have been weightlifters, football players, basketball players, track and field men and other athletes, they have trained in most cases with a minimum of Functional Isometric Contraction to improve themselves at their chosen sport.

For those who are not athletes, for those who are body builders who seek the limit in strength and development, for those who

are weightlifters who want the limit in weightlifting ability, for those who are neither weightlifters or what we call body builders, but simply want to be several times as strong as the average man, want to look good in street clothes, athletic or beach costume, who wish to obtain super health, vitality and endurance, they need more than the One Minute a Day-The Functional Isometric Contraction way. There are so many good exercises, and so many useful, result-producing, interesting to use appliances which are a part of the Isometric-Isotonic Super Power Rack, which require a few additional moments to practice. Even this man who wants the limit in physical results can train when he wishes, when time is limited, with the One Minute a Day Method, but he should have a day or two a week when a longer, interesting, result-producing program is followed. It is for these men, that we are offering our Functional Isometric-Isotonic Contraction Advanced Course.

With Functional Isometric Contraction Training, with minimum time and effort, it is possible to obtain a very rich physical reward for the little time and effort spent in training. We have said that the absolute minimum program should be three exercises, one of the presses, one of the pulls and one of the bends. If you intend to use the minimum program for a time, you will be wise to vary your exercises. One day perform the top press, the high pull, the quarter bend. Another day, the middle press, the middle pull and the middle knee bend. Still another day, the press at chin height, the pull from below the knees, the full knee bend below parallel. But it is seldom necessary for you to exercises a half minute or less, with these three exercises, you can surely find time no matter how busy your life for a slightly larger program, the three we have mentioned, plus the raise on toes and the shoulder shrug which we often call the Big 5, one press, one pull and one bend plus the shoulder shrug and toe raise and the Big Eight which Louis Riecke made famous, two presses, two pulls, two bends, the raise on toes and the shoulder shrug.

For those who are not in such a great hurry, I would like to suggest the Bill March program, the three threes, plus the hanging exercise to start, with the frog kick, the hanging exercise at the



Tommy Kono, of the York A.C. in Honolulu, pausing for a moment between pictures. He seems to be thinking, when is this going to end. On this and the opposite page are more of the good Functional Isometric Contraction Training With Weights Photos, which show the great possibilities of this strong, Power Rack. Shown here it is a portable rack, but the twin uprights can be supplied so that they are anchored at floor and ceiling, if desired.

finish of the program the raise on toes and the shoulder shrug. These are not too many exercises on your limit day of training. And as there are so many other good exercises, it will be wise at times to have a somewhat lengthy exercise period in which various groups of other good, result-producing exercises are practiced.

I believe that the very best form of training is Functional Isometric Contraction Training with weights. Functional Isometric Contraction with static resistance has many advantages, but you do not know what you are doing. You can not measure your output of energy, or the volume of your effort, all you can do is press, pull and bend with all your might. And the might of some men is so different than the might of others, the ability to put forth an explosive, a maximum effort, with some men is so much greater than with others. Even the output of force with any man will vary from day to day. One day you have more push or pull than another. You may feel that you are pulling or pushing to your maximum, while actually you may be far below par. In working against static resistance, you may feel that you are maintaining a maximum pressure for the duration of the 12 count, and you will only appreciate how you may let up on the last few seconds, when you practice Functional Isometric Contraction with weights.

It is so easy to loaf along through your program without putting forth a maximum of effort. One of our rules of physical training is, to build maximum strength you must put forth a maximum effort. And as we have mentioned elsewhere in this book, it is possible to experience a minor injury when putting forth too much effort when your muscles have not been conditioned or hardened to the point of putting forth this great effort. Men have pulled hard enough to pull a muscle, a tendon, a ligament, even injure a capillary or a small blood vessel, particularly when they have not undergone preliminary training for a time before putting forth a maximum effort. Only with weights can you know exactly what you are doing, how much effort you are putting forth, you will know that you are not loafing, not doing too little, and also you will know that you are not doing too much. You will know just how much force you are exerting for how many seconds. With

pure Functional Isometric Contraction against static resistance, it may be hard to maintain maximum force. With Isometric Contraction with Weights, you hold the weight for the desired 12 seconds, or less if it is your medium or light day, and if you cannot do this, if you feel the weight coming down for the last few seconds, the next training day you take less weight resistance for that exercise.

In Isometric Contraction With Weights Training you set the pin of your Hoffman Isometric-Isotonic Super Power Rack at the desired top position. For instance, three inches below the lockout position for the top press, at the top of head for the middle press, at chin level for the starting press, at breast bone level for the top pull, at top of belt for the middle pull, two inches below the knees for the low pull or dead weight lift, four inches below the legs straight position for the top knee bend, half way between parallel and the top bend position for the middle bend, below parallel for the lower bend. For the raise on toes, you place the pin so that you can be raised on toes with a maximum of pressure, and for the shoulder shrug set the pin so that you can pull the bar against it when you pull to the limit. The lower pin is usually set two notches below, almost four inches, so that you can pull or push the weight from this position to the restraining pin.

You use the progressive method of training, striving to handle more and more weight as the days and weeks pass. And this is very important, keep a book in which you mark down all of your training periods and the weight resistance which is handled. In any given exercise, if you find it easily possible to pull or push the bar against the retaining pins, if you wish, you can exert more force. And the next time you perform this particular exercise, you should increase the weight resistance.

Very heavy poundages can be used with the Isometric-Isotonic Super Power Rack. The weights employed are only limited by how much weight you can load on the 7 foot chrome vanadium bar, which is one of the accessories of this Isometric-Isotonic Super Power Rack, using all large plates, 75's, it is possible to load 1100 or more on the bar, using some 50's, it is still possible to use 1000.

It is surprising the poundages that can be used by men who are not very far advanced in this type of training. I have seen a man with quite limited experience, using 500 pounds in the 1/8th bend, and the straddle lift. Men without great experience, hold 500 pounds in the top press, in this event however they bend the legs while holding arms straight, in getting it overhead.

Super Power Rack training will quickly build all around strength in the body, in the positions in which it is most natural to exert force. The three threes work very well for any man regardless of his physical desires, for they build strength in the most natural way to exert force. The three threes, have unusual all around value and will do the man who practices them a lot of good and bring him a very rich physical reward. And there are a host of other good result-producing exercises. You will find this form of training to be an actual pleasure. During my life I have trained very, very hard, so hard at times that I could not sit at the table to eat my evening meal, I would have to sit on the floor with my back to the wall. And now we find that we can get good results, even superior results, in a much easier, much more comfortable fashion. No wonder we are happy and enthusiastic over this form of training.

Muscle Contraction With Movement

MMUSCLE Contraction with movement, scientifically known (M.C. cM) has been known by some workers as Isotonic contraction. There are many who believe that Isometric means without movement, and that Isotonic is with movement. This is a misnomer, as we have explained elsewhere in this book, just the opposite is true. We have been reluctant to change the name for this term has been used for such a long time, but if we don't at least tell you of the mistaken idea that movement is Isotonic, the misnomer will go on indefinitely. You can apply the correct name if you wish, Isotonic Contraction, but the name has been used for so many years that we fear much confusion at this stage if we change the name. We hope in time that the proper name will be utilized.

Therefore, instead of using Isotonic contraction as the name for exercises with limited movement, we will call this important type of training **MUSCLE CONTRACTION WITH MOVEMENT**.
A. Limited, over a short range. B. Unlimited, over a long range of movement.

There are a number of forms of movement, the complete range of movement that is little different from the weight training we have been doing most of our lives. Then there is the limited range of movement where the weight is pushed or pulled in a limited

movement, which is controlled by the setting of the pins. Muscle Contraction with unlimited movement, differs somewhat from the old form of weight training, for with the Super Power Rack you can load your bar at any point, and thus more easily practice presses, high pulls, lock outs, straddle lifts, dead weight lifts, leg presses and many other good exercises.

Repetitions can be practiced chiefly as a preliminary conditioner, with either of these forms of muscle contraction, and good results will accrue. The exercises can be practiced in sets if desired.

In addition to the three threes and the supporting exercises which are a part of Bill March's usual program, there are many other exercises which can be practiced, in a manner similar to the three threes, which is the basis of this method of training. With the curl, you can hold at the starting position, the middle position and the top position. In the bench press, you can work in three ranges, or have three holding positions. In the leg press, you can have three holding positions, very low, intermediate and near leg extension. Many authorities believe that the greatest strength can be developed when the muscle is near extension.

The most practiced method of Functional Isometric Contraction With Weights is the method that Bill March used, the method that I use, the method that most of us at headquarters, here in York use. It consists of the pulling or pushing of the suitably loaded bar, from the pins on which it rests, to the desired holding position, which is marked with another pin. For instance, in the low press, the lower pin is set at chest level, the upper pin at chin level. Then the bar is pressed to the holding position, and there is held for 12 seconds. We have a clock with a large second hand where we can see it, to time ourselves with the holding of the weight.

In the intermediate press, the lower pins are set at eye level, and the bar is pressed to a pin set at top of head level, and there it is held for 12 seconds. In the top position of the press, the pin is set so that the weight is pressed up to and held at a position 3 or 4 inches below the lock out or arms extended position.

We have mentioned the other holding positions, so you can work accordingly.

MUSCLE CONTRACTION WITH LIMITED MOVEMENT

Muscle contraction with limited movement can be practiced in singles, but it is most often practiced as a repetition exercise. You press the weight, either in singles, repeated each time after a short rest, until the desired number of repetitions, usually six, or six in succession is performed. Many trainees to accustom their muscles to holding the bar, will hold for six seconds at the completion of the six movements.

With this form of training, when practicing the three threes, you should set your pins at the following points. For the top press, from a position 4 inches above head, to lockout. For the middle press, from eye level to 4 inches above the head level, for the low press, from a point resting on shoulders, to eye level. For the pulls, the top pull is from the top of belt to breast bone, the middle pull from top of thighs to top of a high belt such as is used in lifting, raising on toes, throwing back the head and raising the chest, the low pull is from below knee level to top of thigh level. In the bend, the top bend is from a half way point in the knee bend to the straight leg position. The middle bend from parallel to half way to the straight leg position, the low bend from below parallel to 4 to 6 inches above parallel.

The common way to practice these movements, is in sets of six, holding the bar for six seconds after the 6th repetition.

There are a number of trainees who move the bar over a range of an inch or two, as they are holding near the contractional position. I cannot be sure whether this method speeds strength and muscle building or not. It is a different way, and as we say elsewhere that variety is the spice of life, even in exercise, it may have its advantages. The rules of Functional Isometric Contraction say that there is more cellular action, which also means cell growth when the tension is held in equilibrium, is steadily balanced and there is no dissipation of the effort when the load is held without movement. With this moving at near the point of maximum contraction there is some lost motion. Any of the exercises we have suggested, any other you may think of yourself, can be used with this already famous three method.

MUSCLE CONTRACTION WITH UNLIMITED MOVEMENT

As we said before, this type of training is little different than the old form of weight training. The major difference is that the Hoffman Isometric-Isotonic Super Power Rack, serves as a squat stand, a press stand, a leg press stand, a press bench, an inclined board, an abdomianl board, a chinning bar, a pulley machine and a hand, wrist and forearm developer.

You can place the bell where you want it and work over the entire range of movement with safety and convenience. You can train within the two uprights for safety, or you can work outside using the heads of the long pins to keep the bell from rolling away. In exercises such as the straddle lift, the leg press, and the bench press, it will be wise to work between the uprights as there is a safety factor. When a man is training alone with the bench press, there are times when he cannot make the last movement so that he can put the bell on the curved retainer. Then he is stuck with a heavy weight, perhaps 300 or 400 pounds, upon his chest or abdomen. It is not too easy to get away from it. But with the supporting feature of the Super Power Rack, and the holding pins, you can exercise with safety. Similarly with the leg press which is a very good exercise, but seldom practiced owing to the difficulty of getting the weight upon the extended legs, with the Super Power Rack, you can load the bar as heavy as you want to, and then press it as many times as you wish, lower the weight to the starting or holding pins, and get out from under when you desire. One of the best exercises, an exercise with which you can exercise with a maximum poundage, is the exercise known as the straddle lift. When you do not have a Super Power Rack, you are limited in practicing this exercise to the poundage you can lift from the floor to the exercising position. When lifting from the floor, the trainee is in an awkward, distorted, straining position in which he could hurt himself with too much weight. But with the Super Power rack, you can load it at the position desired and with the poundage desired. You do not have to be very far advanced in this exercise

The Accessories of the Super Power Rack

THE Hoffman Isometric-Isotonic Super Power Rack, is a patent applied for device, which is really a complete gymnasium in itself. It permits 16 forms of training. 1. The Pure Isometric Contraction training, which is the only type of training possible with most home made racks. 2. The Isometric Contraction with weights. 3. Muscle Contraction with Limited Movement, and 4. Muscle Contraction with unlimited movement.

With the rack itself, you can practice with the machine as a squat stand, a press stand, a leg press machine, a straddle lift machine. With the flat bench with hooks, reinforced with a 2 x 4, and the supporting bench, you can practice flat bench exercises, inclined bench exercises, and abdominal exercises. This bench opens up a full range of interesting, result-producing exercises. With the bench you can practice all sorts of pull overs with barbell and dumbbells. You can practice flying movements, and twisting movements, and you can practice the exercise that I believe is practiced more than any other, the bench press. It is an easy exercise, performed in a comfortable position, lying on one's back. Heavy poundages can easily be utilized and a fine measure of development to arms, chest and even the upper back is created through the practice of this movement. The bench is strong enough to support Paul Anderson's 350 pounds, with a 500 pound press,

to handle 500 pounds, a weight which hardly a barbell man in a thousand could lift from the floor in the straddle lift position. And this is far from the limit of man's capacity in this exercise. Men of moderate size, in the past hundred years that this exercise has been practiced have used up to 1100 and 1200 pounds in this movement.

In regular presses, regular pulls as in the snatch position, regular deep knee bends, either front or with the weight on the back of shoulders, you can start from a position with the weight resting on the outside of the bar, and the bar supported by the long pins. This is one of the best features of a well designed, strongly made rack, as is the Isometric-Isotonic Super Power Rack.

When training with unlimited movement, it is usual to push the weight from shoulder height to arms length overhead. Tommy Kono has long combined two of the positions. The starting position at shoulder height, to 4 inches above the head, and practiced in repetitions.

The pull is usually practiced over the entire range, from knee height to breast bone height, the deep knee bend from the highest to the lowest position.

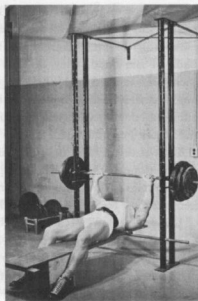
All other exercises are practiced the same way. Repetition raise on toes, with toes in, toes perpendicular to the front and toes well turned out. Repetition leg presses, repetition straddle lifts, working inside the uprights as you can, or moving away if you wish, provide many excellent exercises.

850 pounds in all. The bench press can easily be practiced as a Functional Isometric Contraction exercise, or one with limited or unlimited movement. The Russians have only a few favorite exercises, and all but the jumping movement, can be practiced with this super power rack. And this jumping can be practiced anywhere. The way the Russians do it, they jump up upon a vaulting standard, and jump down again, about ten repetitions. I mention the Russians as often as I do, for we must admit that they are pretty thorough with exercise, as well as a number of other things. There are an estimated 7 million weightlifters, thousands of capable coaches, and many doctors working with them in Russia, so when they concentrate on six exercises, you can be sure that they have found them to be the best.

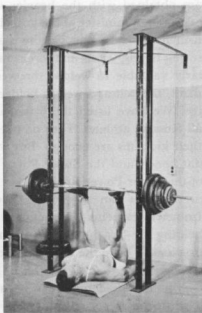
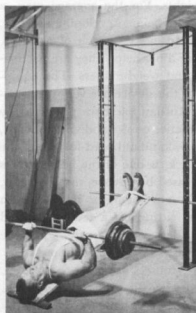
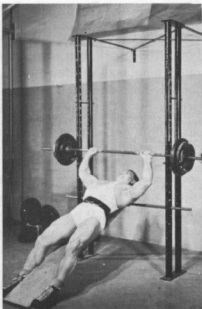
They practice bench pressing, but in all the cases I have seen, with the pressing end of the bench raised about six inches more than the lower end. Vlasov says he presses at all angles, but all the others I saw on my four trips to Russia, were pressing with a bench raised only six inches at the pressing end.

Another of their exercises is to pull up the legs until they are back of the head, they do this hanging from stall bars. On the rack, we do this with the hang and the frog kick, and some of our trainees, swing up the entire way, using the parallel bar, chinning device which is one of the most popular accessories of the Super Power Rack.

That is three. The next exercise which is practiced a great deal, can be done with or without a power rack. It is a combination of our bouncing, leaping, deep knee bend, good morning exercise and raise on toes. Load your bell, supporting it on one of the pins of the Super Power Rack. Go down into the bend with weight on back of shoulders, with comparative slowness, go into the lowest possible position, that is the way the Russians do it, while we have so much agitation in this country as to the value of low bends, start up in the usual way, but end with a leap and a jerk and raise on toes to the limit. This snap of the back, this jerk, the raise on toes, are all good movements designed to improve the athletic ability of all the Russians. They practice this movement almost



John Grimek exercising with some of the attachments of the Hoffman Isometric-Isotonic Super Power-Rack. Every one of these special exercises is an efficient way to build more strength, muscle and athletic ability.



These exercises are very popular, and the attention will be very popular.

endlessly. Exercise No. 5 is a parallel bar pressing exercise. Press bodyweight and then suspend weights from the waist and press more than bodyweight. Vlasov, the great Russian heavyweight, the Olympic champion, and holder of two of the world's records, presses his 275 pounds bodyweight, and 275 pounds of weight hanging from a belt. He asks, "how else could I press over 500 pounds?"

This device, which is one of the interesting, result-producing accessories of the Super Power Rack, can also be used at the top of the rack, as a chinning device. The hands are in a more comfortable position, it is easier to do the frog kicks, and easier to swing up and over, which is a good exercise.

The 6th of the Russians favorite exercises is the hand, wrist and forearm developer. In every Russian gym I visited, they were using this device with up to 100 pounds of weight. It is a very valuable exercise. Some people in this country, practice this movement with a 5, 10 pound or slightly heavier plate. Superior results are obtained with the heavier weights. For the average man, a salesman, a minister of the gospel, a politician, developing a strong, firm hand clasp is a worthy asset. In every branch of athletics, strong hands, wrists and forearms are a big help. They are particularly valuable to weight throwers and weight lifters. The equipment, the belt and weight holder for this device are very inexpensive. We have listed the 6 famous Russian exercises practiced by all Russian athletes. They do not practice on the abdominal board, their kick ups are enough. But the abdominal board feature of the flat bench and the Super Power Rack, is one of the best features of the Super Power Rack. It can be used by anyone, man, woman, or child. It can be practiced with movement, or it can be an Isometric exercise. I practice it by sitting up a few times, and holding the last one for 12 seconds. Between this exercise and the frog kick, I have the most slender waist I have had for many years. I weigh close to 250, and all of my trousers are hard to hold up.

A pulley attachment can be used with the Super Power Rack. This device is normally used as an exercise with movement. But pulleys are very popular, and this attachment will be very popular

in your home or gymnasium. I feel sure that by this time, you have seen that the Super Power Rack is truly a complete gymnasium in itself. This training equipment is so popular that any school, college, or gymnasium can not get by with just one Super Power Rack, two or three or even six are not too many. They will be in constant use. Many commercial gymnasiums are installing these racks, for it provides a new interest in physical training, rapid results, sensational results. Men who are in a hurry can take their exercises without even changing their clothes. This is a popular feature for the always in a hurry Americans.

A Super Power Rack is a very useful device in any home, for it will benefit all of the members of the family.

Making the Most From Your Training with the Hoffman Isometric-Isotonic Super Power Rack

ALL kinds of people take up the practice of Functional Isometric Training. For those who wish to keep fit in the easiest and quickest manner, little time and little effort is required. They need not be concerned about the time of the day they train, how long they exercise, how they are dressed for exercising, and as they do not work hard enough to create perspiration they do not have to be concerned about special bathing. Their usual number of baths will suffice. With reasonable persistence in practicing the exercises of Functional Isometric Contraction, they will find it easy to be twice as strong as the average man, to be well enough built to attract favorable attention in street clothes or at the beach, to enjoy splendid health, to have good endurance, rapid recuperative power and the expectancy of long life. There are a great many who will follow the Functional Isometric Contraction System to rejuvenate an injured limb or other part of their bodies, a fair number of those who wish to reduce their ugly, unsightly, overweight bodies, to replace this unhealthy, burdensome fat with smooth, strong muscles, a great many who wish to gain weight, to build their undeveloped bodies so that they will compare favorably with the advanced barbell men. This type of man will find it easy to attain his physical desires. The system of training, One Minute a Day, the Functional Iso-

metric Contraction Way, predominantly exercise without movement, should bring the results easily and quickly that he desires.

But this part of the book, Functional Isometric Training, is designed rather for those men who want the limit in strength, health and development, who want big strong muscles as fast as possible, who want to improve their athletic ability, to develop more speed, power, nervous energy or super endurance so that they will perform better at their chosen sport. Many who purchase this book will desire to be weightlifting champions. As it contains the very best method of building strength, and as strength is the most important physical characteristic of an athlete, particularly of a strength athlete, a weight thrower or a weight lifter, these men will benefit greatly from a careful study of this unusual and advanced book, and from putting its precepts into action. This is the first book of its kind, in fact the only book of its kind, a book which is far ahead of anything in the line of Isometric contraction that has gone before. It contains a workable system, a proven system, which has brought sensational physical results quickly to others, it will do the same for you. Make the most of it. The information this book contains will quickly bring you superior results, a knowledge and a development which will make it easy for you to teach others, you will have shown the way, you will be respected, what you say or write will be listened to, you can teach others, by opening a gymnasium of your own.

In the old days, opening a gymnasium was expensive, a lot of space was required, but now it is easy. You can start with a single Hoffman Isometric-Isotonic Super Power Rack, but leave room for six others side by side for you will need them. The pleasing results this type of training will produce quickly becomes known and others want to benefit too. So many people feel that they don't have time, and when they are told that this system takes so little time, that most days, you do not even have to change your clothes and put on a gym costume, they find that they do have time. On your day or days of training with movement, you should wear gym clothes, some sort of a workout suit, but on your usual One Minute a Day, the Functional Isometric Contraction Way, you

can walk right into the training quarters and a few minutes later you can walk out, with your exercises consummated for that day. It's truly a wonderful system, a method which will take so little time, so little energy, yet will bring such superior results.

The suggested exercises and the method of training, in the advanced section of this book has been designed primarily for the man who has already made good progress in building his body, in obtaining his physical desires, it is planned for the man who wishes to go on in building the finest possible physique, the most muscle, the best athletic ability and to become so placed that he can teach others. This can be a pleasure, happiness engendered by helping others, by doing your bit in building a stronger and healthier America, it can be profitable too. For people who obtain their physical desires with such a minimum of time and effort, will tell others and soon you will be well and favorably known not only in your town but in your entire section of the country, perhaps in the whole country.

In spite of the fact that this part of the book is designed for those who have had some experience, we wish to offer these few reminders which must be observed to obtain the best results in the shortest time.

Rules For Your Success

1. TO SUCCEED, never miss an exercise period, when once your miss, it is so easy to miss again, and again and again, to miss so much, that you fail altogether. Missing your training is a retarding factor which will lead to ultimate failure in the end. If you unavoidably miss your training, make up for it. It is easy the Functional Isometric Contraction Way No harm would be done if you train several days in succession, or even if you trained twice in one day. Training once in the morning, using the light system, resistance for 6 seconds only, you can take your usual training period that day. If you plan to train Monday, Wednesday and Friday, it is so easy to make up the day you may miss. But if you want the limit in strength, health and development, you should plan to train more than three times a week. It is so easy the Functional Isometric Contraction way to train five or six times a week, and gain not only twice as fast through training twice as much, but gain three or four times as fast, because you train twice as much and get better and faster, surer results from each training period.

2. Keep yourself warm while exercising. Wear sweat clothes or other warm clothing when you are training more than the One Minute a Day, the Functional Isometric Contraction Way. It is good for you to perspire. In the hot summer you need not cover yourself so warmly, but even then keep out of drafts. At an early

point of my career, I trained five months, twenty weeks, reduced my weight to 220 and built up to 243½ pounds of Herculean power, I much more than doubled in strength in these twenty weeks, and I won the professional weightlifting championship of America. That is not important to your training, what is important is the fact that I wore sweat clothes through the heat of the summer. It helped me. It will help you.

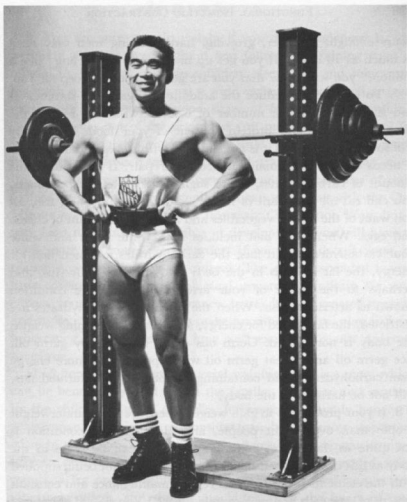
THE BEST TIME TO TRAIN

3. The best time to train is usually after the day's work is done. Morning training is not good, as the body is not quite awake at that time. As I mentioned previously, a light workout with a minimum of six exercises without movement, will have value if for some reason you could not prevent you have missed one or a number of training periods. It is wise to train after work, early enough that you will have a bit of time to rest before the evening meal. The famous members of the York Barbell Club, which numbers many of the strongest men in the nation, usually train from four to six or any part of that time starting with 4 P.M. depending upon their particular program for that day.

4. Muscular size and strength is gained by a combination of proper exercise, adequate nourishment and rest.

5. Be sure that your diet includes enough of the protective foods, milk, cheese and other dairy products, fresh meat, some of an organic nature, such as liver, heart, kidneys, etc., plenty of green and yellow vegetables, leafy vegetables and fruits of all kinds. When your diet includes the protective foods, you can eat anything else that you like, which likes you. As protein is the most important food element, be sure that you receive generous amounts of it. As most proteins are incomplete, that is do not contain all of the amino acids, the building blocks of the body, or carry some of them in such short supply that they can not fill the bodies needs, you will be wise to supplement your diet with some complete protein every day.

6. 8 hours of sleep is sufficient for the average. Many find 6



Tommy Kono again. He likes to train with the portable Functional Isometric Contraction Rack shown here.

hours enough. Younger, growing, hard training men may need as much as 10 hours. If you get up in the morning feeling "like a million," you will know that you are getting enough sleep for you.

7. To lose weight reduce the amount of sugars and starches. If you simply reduce the number of calories, you also reduce the vitamin, mineral and protein content of your food. Your body will suffer in the end as it is not supplied with the essential elements it needs for building, maintenance and repair. If you reduce the amount of carbohydrates, white sugar and white flour products, you can eat all you want of meat, including poultry and fish, all you want of the lighter vegetables and fruits, all you want of cheese and eggs. When your diet includes both white sugar and white flour carbohydrates and fats, the carbohydrates are used first for energy, the fat remains in the body and sticks to your ribs, and perhaps to the inside of your arteries, creating the condition known as arteriosclerosis. When the unnatural carbohydrates are restricted, the fat is used for energy, and instead of gaining weight, the body is normalized. Germ oils made up with soy germ oil, rice germ oil and wheat germ oil will supply much more energy than carbohydrates and containing as they do, unsaturated fats, will not be harmful to the body.

8. If your problem is to gain weight (there are more underweight people than overweight people, and although this condition is not quite as dangerous, considerable harm can be done to the body as this thinness often shows that the body is not being supplied with the elements it needs for its repair, maintenance and constant growth of new cells and new muscle tissues.) You should eat plenty of good wholesome, natural food, thick soups, solid vegetables such as peas, beans, corn, potatoes, a pint of milk a day, more if you like it and it likes you, some eggs, plenty of protein supplements, the material of which the body is made, soy beans in various forms are excellent body builders, nuts are weight producing and nourishing. If you are young and very active you can eat more than the usual three meals a day. Resting after meals will help you gain weight. Eat under happy, harmonious conditions, if you are upset mentally do not eat at that time.

9. You are sure to gain weight if you desire and need it, lose weight if you are overweight if you follow the training rules as offered in this book. Obtain sufficient sleep, rest and relaxation, maintain a tranquil mind, eat a wide variety of good food at meal times only and obtain a good share of fresh air and sunshine.

10. You get out of exercise what you put into it. You pay for what you get in this world. Pay a little, get a little, pay more, get more. And by paying in physical training, we mean more training, harder training, a closer adherence to the rules of right living. If your ambition is small, you can gain that with the One Minute a Day-The Functional Isometric Contraction Way, but if you want the limit in strength and development, you will have to work more, do more, work harder. If your ambition is great, to realize it, your effort must be great. The effort expended is very little considering the great physical reward you obtain for your efforts, your improved appearance, better health, greater strength and more muscles. So plan to make maximum gains, plan to keep progressing, train hard and long and excellent results are sure to accrue.

11. A home gymnasium or special training room is a room which can be beneficially used by all the family, by father and mother, by the children, by the old folks, for exercise is highly beneficial at any age. This home gymnasium can be the most important room in the house, so allot a room and gradually you can equip it to your satisfaction. At one time, you would have needed squat stands, a leg press machine, press bench, and many people used vibrators, rollers, and similar machines. Now the heart of your Home Gymnasium should be a Super Power Rack. It will replace many other machines, and will supply the means to train as you like, the One Minute a Day, the Functional Isometric Contraction Way, or make it possible for you to practice many good, result-producing exercises to improve your weight lifting ability, or your all around athletic ability, if you wish to participate in other sports.

You can place pictures of outstanding physical specimens on the wall. A happy, strong, and healthy family will result from the planning, equipping and using the Home Gymnasium, you pro-

vide for yourself and family.

12. Exercising regularly, vigorously and progressively, following the training principles outlined in this book will make a success story of your life. You can have a body of which you will be proud you will be super healthy. The best physical specimens today, were in most cases very average to begin, in many cases they were sick, ailing, and physically handicapped. By following the right methods, Bob Hoffman's methods, they reached the heights in the strength world. By following the same proven to be best system, the method contained in this book, you too can do well.

13. Be persistent. Don't offer excuses to yourself to miss an exercise period. Laziness is the most popular excuse for missing training, so don't let laziness get you. When you set a goal, when you persist, never deviate from your plan, your success will be in direct proportion to the effort you expend and the health and efficiency of the body with which you are working, your own. So to succeed, be persistent, live right, eliminate entirely or cut to the bare minimum all harmful practices.

14. By following the rules of successful, healthful living, your recuperative powers will quickly improve. Fatigue will be unknown to you. Avoid eating what we call foodless foods, foods of little value. These foods simply put an added load on the internal processes, the digestive and eliminative tract. The less you eat of denatured white sugar and white flour products, the better you will be. Tea, coffee and soft drinks are loaded with white sugar which has no real value, it supplies only calories which burn fast, do not carry you long. The sugars of milk and fruit, have much more lasting value. Don't just say, why should these things hurt me, nearly everyone uses these foods, nearly everyone smokes, nearly everyone uses alcoholic beverages. That's true, and nearly everyone is far from healthy. Nearly everyone has barely able to be up and around health also. Before you eat anything or drink anything, you should ask yourself if this food or drink will make a worthwhile contribution to your health, your energy and the building of your body. You will succeed in direct proportion to how well you treat your body, how well you supply it. While an

athlete can stand more of these questionable or positively injurious habits than average people, it is not good for them either. Strong men can drink more, and smoke more, because their efficient bodies will throw off poisons more rapidly than the bodies of average people. But these men usually became stronger and healthier because they did not have these common but injurious habits. But why continue these habits which definitely are not good for you? Determine right now to eliminate them entirely. Very few men who reach the heights in the strength world smoke or drink alcoholic beverages. Your instructor won many races or contests in the last foot and with the last lift and as he never smoked or drank, as he closely followed and follows more closely than ever at this stage of his life, the rules of healthful living, one thing sure, that is an important reason for his success.

THE BOB HOFFMAN ADVANCED METHOD OF FUNCTIONAL ISOMETRIC CONTRACTION

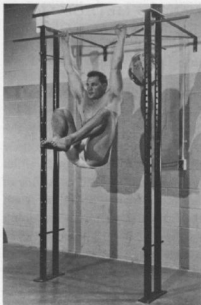
How To Use The Hoffman Isometric-Isotonic Super Power Rack

Some fellows like to work from the bottom up, that is with the heavy full squat being the first exercise after the Hanging Frog Kick Exercise. They move up through the Parallel squat, the three pulls and the three presses. They usually perform their nearly straight leg dead weight lift and the 1/8th knee bend when the weight is at the position which suits them best. The author of this course, and many others who train alone, prefer to start at the top and work down. This is easier, when one man is making the changes.

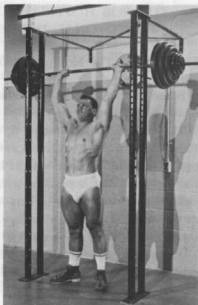
In moving up, when two train together, it is not difficult to raise the partially loaded barbell. I keep a strong chair on each side of the Super Power Rack and thus I can take off and put on plates with speed and comparative ease. Practice will help you determine which method you prefer. We will list the exercises from the top down and you can reverse them if you desire.

1. *Hanging from Bar.* It is more convenient to leave a 5, bar at the top of the Isonetric side of the Super Power Rack. Hang from this with the knuckles toward the body. Keeping heels together, pull the legs up as far as possible like a frog kicks. Advanced men pull the knees up high enough to touch the body. The object of this exercise is to warm up the body, prepare it for the harder work to come, to extend and align the spine, to develop all of the mid-section, notably the abdominal muscles, 10 to 20 repetitions.

2. *Final Press Out.* Exercise to improve your ability to hold weights overhead. Many championships are lost because the lifter fails to hold the weight overhead. Set the pins so that the weight is four or five inches below the extended arms position. When you are exercising, press to arms length, lower and repeat and repeat the desired number of times. When you are training for maximum strength, press the weight to arms length, lower about three inches and hold for 9 to 12 seconds in this position.



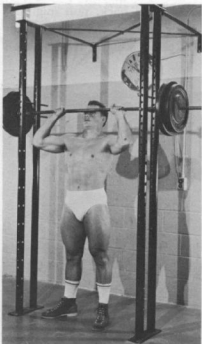
Exercise No. 1. Hanging From The Bar



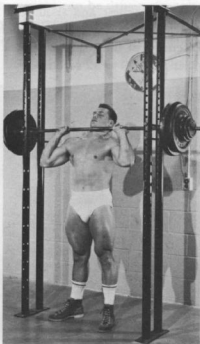
Exercise No. 2. Final Press Out

3. *Middle or Intermediate Press.* This exercise is designed to aid the lifter to pass the sticking point, the point where so many lifters fail. Set the pins so that the weight is at eye level. In exercising from this position, using a poundage which permits correct performance, press from eye level to a position a few inches above head. When working for maximum strength, hold a very heavy bar at head height for 9 to 12 seconds.

4. *Starting Press*—Set the pins so that you can assume the position of the starting press with weight on chest. Press to eye level. Many advanced lifters can use 400 pounds in this exercise. When training for maximum strength, take the heaviest weight you can press off the starting press pins, press it to chin level and hold for 9 to 12 seconds.



Exercise No. 3. Middle Press.



Exercise No. 4. Starting Press.

THESE ARE THE EXERCISES

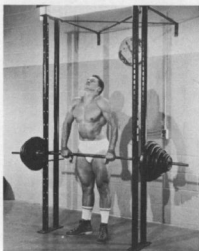
5. *High Snatch Position.* This exercise is the top of the snatch position. Set the pins so that the bar is even with the breast bone.

Using a wide grip, pull the weight as high as you can. When training for maximum strength, pull the weight up to the breast bone, at the same time raising high on toes, raising chest and shoulders, throwing head back as in the very heavy top snatch position. As in all of these exercises, press or pull mightily against the bar for 9 to 12 seconds.

6. *Pull to Middle Clean and Snatch Position*—Start with bar against the thighs, arms straight. From this position pull the bar so that it reaches the top of belt position, as if you were going to place it on the belt to continental clean. As you pull, raise high on toes, raise chest and shoulders, throw head back, pull mightily. Much of your success as a weight lifter depends upon the correct execution of this exercise with a very heavy weight. Hold in high position for 9 to 12 seconds.



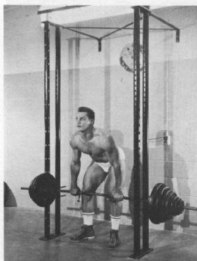
Exercise No. 5. High Pull Up.



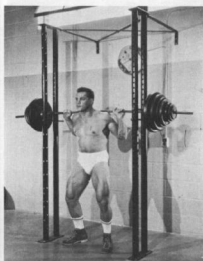
Exercise No. 6. Middle Pull.

7. *Partial Dead Weight Lift.* Starting with the barbell just below the knees, the legs are working, the back is pulling. As an exercise the movement ranges from the knees to the back straight position with arms hanging straight. As a super strength exercise, the bar is drawn up so that you are standing with the back leaning forward at a slight angle. Here you continue to pull mightily against a very heavy weight for 9 to 12 seconds.

8. *1/8th Bend with a Very Heavy Weight*—Set the pins so that you can get under the bell with the legs partially bent. As an exercise, straighten the legs, lower and repeat. Advanced men use as much as 1000 pounds in this exercise. The bar that is usually employed with the Super Power Rack is 7 feet long, made of tempered Chrome Vanadium Steel. It will hold 1000 pounds. This exercise will impart power to the muscles which straighten the legs and also will assure that the weight can be driven strongly to overhead in the jerk. As a power exercise, hold the bar with the knees slightly bent for 9 to 12 seconds.



Exercise No. 7. Dead Hang Pull.

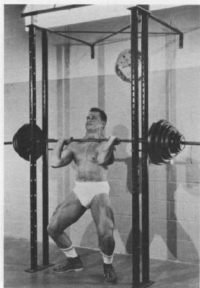


Exercise No. 8. 1/8th Knee Bend.

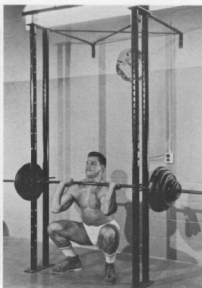
9. *Middle Leg Press or Knee Bend*—This exercise will start with the legs parallel to the floor and finish at the $1/8$ th bend position. As an exercise, a power movement; range from parallel to the $1/8$ th position, or hold the barbell about half way between the lower and upper positions for from 9 to 12 seconds.

10. *The full Squat Position*. This exercise should never be neglected as it is important to have maximum strength in the lowest position. As a low split is actually a one-legged squat with the front leg, it is necessary to build strength in the low position.

Lifters perform this movement from the low position to parallel with the weight held on the upper chest. Non lifters place it upon the back. As an exercise, move from the low squat position to parallel. For years we have been writing that the Oriental lifters who are such fabulous squatters, perform their quarter squats from the bottom up. This is the exercise which will help you. As a power movement, the weight should be held for 12 seconds between full squat and parallel.



Exercise No. 9. Middle Leg Bend.



Exercise No. 10. Full Squat.

11. The Raise on Toes. One of the most important exercises. Set the pins so that the bar is barely above the shoulders. Raise on toes raising the weight as far as you can. This can be a repetition exercise, practiced with the toes turned in at times, at other times turned out or straight to the front. Great strength can be developed in the feet, plus spring and power which will help in any athletic sport or game and will help in the business of living. As a power exercise, support the weight in the highest possible position for 9 to 12 seconds.

12. The Shoulder Shrug. Set the pins so that the bar is held with the arms at full length, downward. From this position pull the bar up as far as possible by shrugging the shoulders. As an exercise, you can practice in series of six each. As a power exercise, hold the weight as high as you can for 9 to 12 seconds. One national champion hammer thrower uses up to 800 pounds in this movement.



Exercise No. 11. Raise on Toes.



Exercise No. 12. Shoulder Shrug.

To end your training program, hang from the bar for at least a minute. This will stretch and realign the spine.

It is not wise to perform too many exercises or you will defeat the purpose of this kind of training. The program is intended to permit hard exertion without fatigue so that the muscles will start building immediately after the exercise program is continued. When you start your training, and do not handle maximum poundages, you may find it easy to perform the hanging movements, the raise on toes, the shoulder shrug, the three presses, the three pulls and the three bends. But when you learn to exert greater force Isometrically, or use heavier poundages, so many exercises may be too much for you and retard your progress. You do not feel that you are working too hard. You simply do not make the progress you expected, or may make no progress at all. At this point consider your system of living.

Are you eating sufficient of good food to supply the body's needs for energy. for building, maintenance and repair? Are you including too many leaks, harmful habits such as smoking, drinking alcoholics, too much of candy, soft drinks, white sugar and white flour products? Natural food is the best.

If your living habits are good, if you follow the essentials of health as completely as possible, if still you do not gain, you may be performing too many exercises. Reduce to two presses, two pulls, two bends. With the raise on toes and the shoulder shrug, with the two hangs, you will have ten movements. If this is still too much, reduce to the minimum, one press, one pull, one bend, one raise on toes, one shoulder shrug, one hang. If this does not make it possible for you to forge ahead, you simply will have to take a few days off.

We have tried to make this program clear to you. We hope you will have no difficulty training properly. It is the greatest training system ever devised. Truly, it should be the answer to all of your physical desires.

Additional Exercises Which Can Be Practiced On the Hoffman Isometric- Isotonic Super Power Rack

1. RAISE ON TOES. Practice with three positions, feet straight to the front, turned in and turned out. As a holding exercise, raise on toes as far as possible, as a Muscle Contraction With Movement exercise, make at least 6 repetitions in each position.

2. Shoulder shrug. This exercise should always be included in your training program, it develops some of the largest and strongest muscles of the body and adds to the pleasing appearance of the well developed man.

Grasp the bar with the knuckles front. Keep arms straight, raising the shoulders as high as possible trying to touch ears with them. When practicing Isometric Contraction, use the shoulders in various positions as you pull, shoulders front, shoulders middle and shoulders back. When practicing Muscle Contraction With Movement (MCWM) perform sets of six movements, up, front, back, and lower, a sort of rotating movement of the shoulders, shrug with the shoulders held well back also. You can practice a combination Isometric with movement, after raising the shoulders as high as possible, keep them in the raised position, force them back as far as possible and hold them back, for the desired number of counts.

3. Back hand curl. Holding the bar with knuckles up, exert

maximum force for the desired number of movements.

4. Regular curl, with palms up, positions to be practiced are from a starting position with arms slightly bent, with the arms forming a right angle, with the curl well up.

5. Curl with thumbs up. This can be practiced working against the bar which is held in the Functional Isometric Openings in the front standard. You can exert force against the bar with the top of hands, or you can use a towel wrapped around the bar. Some trainees practice this exercise by grasping one of the uprights with the thumb up. Practice with one hand and then the other. Using the big upright will build a terrific grip as well as strength and development in the forearm.

6. Chinning the bar. If you can chin, you will practice Muscle Contraction With Movement (MCWM) for at least six movements. You can practice chinning in three positions, knuckles up, palms up, or a hand on either side with the special attachment which is used for parallel bar pressing and this type of chinning. You can pull up the body so that the upper back touches the bar.

To practice the chinning movements Isometrically, for those who can not chin. Hold the body with the arms slightly bent, with the arms at right angles, and the arms near the full curl or chin touch position. Hold for the desired number of counts in each position. In holding, you can pull from a different position by standing with the back to one pair of uprights, the face to the others, put the hands over the bar so that the palms are facing, pull until the head touches the bar and hold for the desired number of counts.

7. One arm chinning. It is surprising how many men would like to learn to chin with one hand. It is even possible to chin with one finger. Although chinning with one hand is easier for the man who is lighter in bodyweight, lighter in the legs, it is possible for anyone, it's simply necessary to be strong enough to do it. Steve Stanko, when he was at his best as a weight lifter and weighed 240 pounds, could chin at least seven repetitions with one hand.

Learn to chin easily with two hands. In starting with one hand



Steve Stanko demonstrates The Middle Knee Bend (photo at left) and The High Press (Photo at right). These are ideal movements to be used in the Functional Isometric Contraction System.



Steve Stanko demonstrates the Low Pull (photo at left) and The Middle Pull (photo at right) Both movements are part of the Functional Isometric Contraction System.

chinning, you first grasp the wrist with the other hand and with this assistance you maintain the holding position or actually chin the M C W M way.

To build added strength in the holding position, you will be wise to wear a pair of Iron Boots, which you can increase in weight progressively. When chinning is not too difficult with one hand assisted by the other holding the wrist, move the assisting hand down until it touches the biceps at elbow level, later place this hand in the middle of the biceps, still later, use this other hand on the shoulder, and still later, suspend a small rope from the chinning bar, and pulling with diminishing pressure upon it, you will finally learn to chin with one hand with the cord or rope just grasped between thumb and finger, and finally with one hand alone. And while you are learning to chin with one hand, you will build a good measure of strength and development.

8. Leg Curl. Use a low bench to get in position for the leg curl. This is an important exercise, for it develops many muscles which add to the appearance of the physique for the body builder, add to the legs strength for the weight lifter, and help in many forms of athletics. In addition, it builds the strength of the ham string muscles and overcomes one of the most common injuries to football players.

You may have noticed that many prominent track and field athletes, have a very unusual development of the biceps of the thigh muscles. They serve well in hurdling, running and jumping, although, apparently not directly involved in these athletic events, the very fact that the winners in these fields have unusual thigh biceps development is the best proof of the value of these muscles.

Practice the three positions of the arm curl, in the leg curl position.

9. Leg Extension. This is a very important exercise also, for it strengthens the knee assembly and prevents a great many injuries, particularly it prevents a condition which has often been called football knee. Lie on your back on the bench, with your feet toward the Super Power Rack. Starting with the feet in a low position, exert full leg extension power upon the bar. Practice in

This is an exercise which should be practiced to a considerable extent, for in addition to it's great help in a variety of athletic sports, it develops the shoulders, pectorals, and upper back to a very considerable extent.

13. Leverage movement, forcing the extended arms to the side. Although an exercise such as this is practiced easier with some sort of a steel spring or rubber exerciser, you can practice one arm at a time, by exerting force against one of the uprights, as you exert force to the side with arm extended. Practice with one arm and then the other.

14. Just the opposite of No. 13 can be practiced by pulling the arms together. This movement is one of the lying down exercises with dumbbells, but we subscribe to the principle that any exercise which can be practiced with other appliances, such as pulleys, dumbbells, barbells, iron boots, chest expanders, can be practiced with the Hoffman Isometric-Isotonic Super Power Rack. You simply exert force to develop the desired muscles by pulling in with hand holding one of the uprights of the Super Power Rack.

UNUSUAL EXERCISES WHICH CAN BE PRACTICED WITH THE SUPER POWER RACK

15. French press. Stand or sit in such a position, that you can hold the bar with the knuckles up, elbows held high. Put forth a maximum effort in this position. It is a very good developer of the triceps muscles.

16. Press behind neck. You can practice this movement in the same starting position as the French press, so we offer them together. You can practice this movement either sitting or standing. Place the bar at the desired position back of head and press in the three positions of the regular press, just above the shoulders, at head height and arms extended. It is a good exercise to improve the pressing ability of any weight lifter, to build the strength of any athlete from a different angle.

17. One arm sitting Curl. Sitting on a bench or chair with palm front, grasp the bar, curl in the various positions, of the regular

three positions, with the feet in an intermediate position, and a near straight position.

10. Pull over. This is another exercise which is practiced while lying upon the bench. Practice in a variety of positions with the arms straight and the arms bent. This is an important movement as it develops the muscles which are used in a variety of sports, notably swimming and the throwing events. You can practice this pull over with one hand also, a favorite exercise of the Russian javeline throwers.

11. Another good leverage exercise, is the forward raise with the bar. Standing with the feet a comfortable distance apart, grasp the bell with the over grip. With arm and shoulder movement only, try to raise the bar in the various contractional positions, from a position near thighs, two positions a little higher, and then one level with the waist and finally the shoulders. You can practice about five positions with this exercise, for it covers a wide range, almost a half circle from a position at thighs to well overhead. You can practice with both arms simultaneously, or use one arm at a time.

12. Lateral raise. In this exercise, use one hand at a time, stand sideways to the bar, and practice with the extended, straight arm in the various positions. After you have exercised one arm, exercise the other. You can also practice this exercise with the palm of the hand up.

13. Pull down with arms straight. This is a movement which closely simulates the action used in a swimming stroke, it builds the power which will help the swimmer, it also develops the muscles which are used in most throwing movements, with a javeline, with a baseball, and to a lesser extent the throwing of other objects, such as the shot and discus. This exercise can be practiced in a number of positions, as it extends from back of head, overhead, to the floor in front of feet. Apply force along this arc in as many places as you desire. It is similar to some of the pulley movements which can be practiced, M C W M, if you have the pulley device which is one of the accessories of the Hoffman Isometric-Isotonic Super Power Rack.

curl, low, medium and high.

18. Dead weight lift behind back, often called the Hack lift as it was a favorite of the great old time world's wrestling champion and strong man, George Hackenschmidt. Stand in front of barbell, with back turned to it. Grasp bar with knuckles front, endeavor to straighten the legs. At first, you will find this movement to be quite difficult, rather awkward as it throws you a bit off balance. With persistence, you will become accustomed to the movement and develop a considerable amount of strength and muscle.

19. Supine French Press. It bears a resemblance to exercise 15, except that it is performed while lying on a bench instead of standing. Keeping the elbows high, try to straighten the arms as you work against the immovable object of the firmly anchored bell.

20. Bent over lateral raise. This movement is similar to raising dumbbells to the side, while leaning forward. In the bent over position, raise one arm and then the other, knuckles up, against the stationary bar of the Super Power Rack.

21. Grasp the bar, or the upright, and twist the arm hard to the right, and then to the left. Here is an exercise which is best practiced with the Super Power Rack. As it is not as applicable with weights in any form.

22. Deep knee bend with bar overhead. Placing the bar high enough that you can practice the various positions of the deep knee bend with full force exerted against a bar. This will develop great lock out strength, as the legs are many times as strong as the arms.

23. Side bend, as you would practice with one dumbbell. In this case you set the bar so that you can practice several positions of the side raise.

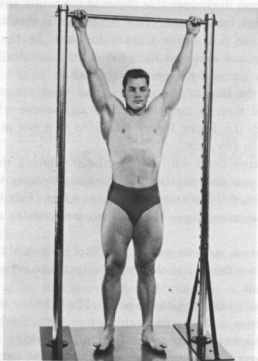
24. Leg raise while lying on the bench. Place the bar in the several desired positions and practice raising legs with maximum force.

25. A movement similar to the bent press position with weight overhead. Exert force against the bar, while in the bent over, bent press position. Lifting a heavy dumbbell or barbell in bent press style is often slow enough to come pretty close to being Isometric,

but with the stationary bar you can practice these positions entirely without movement.

26. One arm military press, practiced with the hand in a position different from the usual two arm pressing position. In this case, you stand facing one of the uprights of your Super Power Rack and slightly to the side of the bar, and exert force in the several positions of the side press position.

27. With your Super Power Rack, you can practice a number of the movements of the Iron boot course. Curling with one leg, pulling up one leg while holding the foot under the bar, leg raise to the side, leg raise to the front as in kicking a foot ball, and the leg extension while sitting, one leg at a time.



Bill March, working with the Functional Isometric Contraction Super Power Rack. This portable rack is made with a steel base, and steel pipes. Although it weighs 130 pounds, it can be easily transported to the place desired.

Exercises Which Can Be Practiced With the Bench

AN important accessory, which is a part of the complete Hoffman Isometric-Isotonic Super Power Rack, is the flat board which can be used as a press bench, an inclined bench, and an abdominal board. This Three in One bench is very moderately priced when you consider the great number of easy but result-producing exercises which can be done with it, the great variety of these movements, and the unusual physical results which are obtained through the practice of these movements.

28. The most important exercise which can be practiced on the bench is the bench press. Place the bench in the regular position resting on the short bar, then exert force against the long bar in the several positions of the bench press, low, medium and near lockout.

29. Regular pull over in its various positions and the bent arm pull over.

30. Leg raise and leg extensions, the leg curl has already been described.

31. When used as a part of the Muscle Contraction With Movement system, dumbbells which permit pull overs, flying movements, presses, and rotating movements can be used.

32. Inclined presses can be practiced in many positions. The

first position is with the bench raised only about six inches above parallel to the floor. Then work up as desired to presses which compare favorably with a slightly bent back starting press.

33. Decline presses can also be practiced with the bar in the various inclined positions. You thrust your feet through the strap, and then with your head lower than your feet, you press in all the desired positions.

34. Abdominal board. With the board you can practice leg raises, and leg extensions, you can practice the inverted bicycle ride. You can practice the abdominal raise with movement, or in a contractional position of any part of the abdominal raise. I usually practice this with a barbell behind my neck, or a pair of dumbbells, for five movements, and hold the sixth movement for at least 12 seconds. With a heavy weight, considerable resistance is offered with good strength and muscle building effects.

34. One nationally known health expert is of the opinion that a single exercise is enough to keep a person in excellent condition. This consists of merely lying upon the inclined board, head down. In this position the waist is drawn in considerably, which has a tendency to slenderize the waist. It also changes the blood flow, and changes the usual position of the body in either standing, sitting or lying, and it serves as a relaxing exercise.

35. Pressing in the parallel bar position is very important. With this attachment, you not only press bodyweight, but as much weight as you desire to hang upon your body. You can use over 500 pounds, counting bodyweight in this position.

36. The attachment is easy to move, so that you can practice your Isometric Exercises, holding many positions for the desired 12 seconds, but with Muscular Contraction With Movement, you will have a good variety of movements.

37. The Parallel bar attachment is an ideal device for chinning and performing the hanging exercise or the frog kick. To many people, hanging with the bar, knuckles up or palms up, is somewhat of a strain, the arms are not in exactly a normal position and they are twisted somewhat. With the parallel bar device set in a higher position, you can hang and kick as you desire. This device

is a favorite with John Grimek. He likes to do his frog kicks, with this attachment and also likes to "skin the cat" as we did in our boyhood days. This is a good device to throw the legs up and over with. It makes the performance of these exercises so comfortable, that these valuable exercises are never neglected.

The Device for Practicing Hand, Wrist and Forearm Developing

The short bar of the Super Power Rack is a very valuable piece of equipment. It is used for most of the Isometric Exercises, it is used for chinning and the frog kick, it is used for the pulley device, it supports the bench at various angles and perhaps most important of all for the hand wrist and forearm developing and strengthening exercises. Great results have been obtained by many notable athletes by practicing with a light weight and a stick and rope. Much better results can be had with the real exercise that this device permits. A hole has been bored into the bar, which permits the insertion of a belt, and the attachment to hold the weights.

38. Instead of supporting the weight as has been done for years, with the Hoffman Isometric-Isotonic Super Power Rack, using the large holes of the front steel pipes, the bar has ample support, so the trainee can concentrate on putting forth a maximum twisting and turning effort. Although this movement can be practiced as a MCWM exercise, Pure Isometric Contraction can be practiced too.

Progressively increase the weight from a moderate beginning. You can vary the turning positions from below waist level, to as high as shoulder level. These somewhat different positions will strengthen the muscles and build muscles from a number of different positions.

One day you can wind the weight one way, another day, wind it the reverse. Most of the time you will exert force with the arms extended, but for variety, you can work with the elbows bent.

This device is the most economical and one of the most result-producing in the entire realm of exercising equipment.

It is priced at only \$2.50 including the strap and the weight holder. Truly a bargain. It is strong enough to handle all the weight you can progressively learn to use in this exercise, a hundred pounds or more.

It means a lot to any man to have a strong grip. A strong grip is something that will stay with you for life. Men retain their gripping power as long as they live, it is the last strength to remain with a very old man. When once you have developed a reputation for strength through your gripping power you will always have it. I saw Leon See bend a half dollar when he was past 70, and 86 year old Mahlon Haines has a grip which would amaze you.

A strong grip will help any man who works with his hands, it will help a man in any branch of sport, and it will help anyone who has occasion to meet people. A salesman, a politician, a minister of the gospel. Strong men do not go around trying to crush the hand and fingers of everyone they meet, but the strength in a strong man's hands can be felt when he shakes hands with another. So do all you can to develop this useful admired strength in the hands, wrists and forearms. This section is one of the parts of the body, the neck is another, which often can be seen by the general public and it will develop for any man a reputation as a strong, healthy super man.

Additional Exercises

39. Stiff, legged dead weight lift.

One should be a bit careful with this exercise. It is performed more easily by those who have more flexible backs. In any event start very carefully. If you are employing Functional Isometric Contraction with weights, you will know exactly what you are starting with, and how you progress progressively. This is solely a back exercise and the legs should be held straight. Set the bar at the desired height, stand with the feet a comfortable distance apart, and exert the desired force, maximum after you have conditioned your body to sustain maximum pressure, for the desired number of seconds. Use the customary three or four positions in which you exert the desired force.

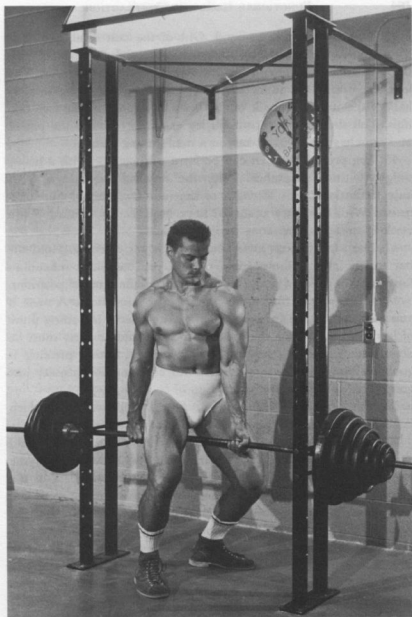
40. Bent over rowing. Place the bar so that you can stand in a position to exert force with the back bent at right angles to the legs. You can vary the position of the arms, quite wide at times, and as narrow as shoulder width apart at others. Pull the bar as hard as you can Isometrically, in the three usual positions. This is one of the best exercises, one of the good key body building exercises, a must in physical training. Although it is an arm developer, particularly developing the deep lying muscles, the Brachialis Anticus, and the Coraco Brachialis, it also is a good exercise for developing the upper back, notably the latissimus.

41. Upright rowing. In this exercise, stand with the feet a comfortable distance apart, grasp the barbell with knuckles front. It is usual to perform this exercise with hands fairly close together, about 6 inches apart. Pull straight up in the various positions of Isometric Contraction, a few inches above the starting position, an intermediate position and a few inches below chin height. It is a good key exercise, and in addition to building the pulling power, it will develop the arms, the deltoids, the trapezius, as well as many muscles of the upper back and chest. It builds a better chest and squares the shoulders.

42. 45 degree rowing. Holding the back sloping at an intermediate position, at an angle of 45 degrees, instead of bent over parallel with the floor or erect, will strengthen and develop the muscles from different angles. Place hands and feet in positions similar to those in the previous exercises and pull in the several positions.

43. The straddle lift. This is another good key exercise, an exercise which permits the use of very substantial poundages when the Hoffman Isometric-Isotonic Super Power Rack is part of the training equipment. Without a supporting rack, it simply is not possible to lift a great weight to the exercising position. Place the bar so that the resistance can be offered with the legs bent about one third of the way, the body perfectly upright, the back straight. You should stand with the feet about 18 inches apart, the toes turned out slightly. Start your exercise with the right hand in front of you, the left behind you, straddling the bar as the name of the exercise implies. Straighten the legs as hard as you can, exerting a great force. In MCWM any advanced barbell man will work up to 1000 pounds in this exercise. Good proof of the extreme value of the exercise.

44. Bend over or Good Morning exercise. Place the bar, so that when your body is bent forward at right angles, your head can be thrust under the bar. Stand with your feet a comfortable distance apart, with head and shoulders under the bar, raise up as strongly as possible. This is a back exercise and when practiced regularly it will develop real power in the midsection.



Note that Bill March, in this exercise, the Straddle Lift, is handling a substantial weight and holding against the top pins.

45. Flat foot deep knee bend. One of the best of all exercises. You should practice this in at least four positions, ranging from below parallel to a few inches below a legs straight position. The legs are nearly ten times as strong as the arms, approximately half of the muscular bulk of the body is located in the legs and hips. You should concentrate on leg exercises to build the power and muscle which will make you a man among men.

46. Leg press. Few men can perform this exercise with a heavy weight without assistance. With the Super Power Rack, your only limitation is the strength of the muscles, tendons and ligaments. With this lift you should have no difficulty gaining 5% a week in strength, for a long period of weeks.

47. Deep front squat knee bend as in squat cleaning. Hold the bar on the chest, elbows high, so that you can exert maximum force as you press with the legs mightily in the various positions.

48. Sitting press, front press and press behind neck. A must if you have one of the Isometric Contraction Racks including pipes of less than 6 feet, for the lockout and the middle press must be done with the sitting position. In any event, sitting pressing is good training, for in this position no cheating is possible, just good pressing power will result.

49. One legged deep knee bend. As with the two legged deep knee bend, you should practice in at least four positions.

50. Head strap exercise. If you have a head strap, and you should have, you can practice neck lifting with the head strap in the various positions. The neck is the most conspicuous part of the body when clothed, a good, strong, round, column like, well developed neck will show all with whom you come into contact that you are a strong and well developed man.

51. Teeth lifting. This type of exercise is best performed if you have a well made mouthpiece. They are not expensive and will bring good results. Your neck and back will obtain a full measure of benefit, your teeth will be strengthened and the muscles of your jaw will be well developed which will improve your appearance, and keep you young looking longer.

52. Straight leg raise from the hanging position. A very good

exercise, practiced in place of the frog kick at times, you will have a strong and well developed midsection of which you can be proud. You will have a protective corset of muscle in the midsection, and have better operating internal works as a result of this exercise. It is important just as it is in a factory where there is a place for everything and everything in its place, to have the muscles which hold the organs in their respective places and help them function, to be as strong as possible.

53. Two hands press in wrestler's bridge position. Place the bar, so that when you are in the wrestler's bridge position, you will be able to exert full force in pressing against it. In the beginning you will have to be satisfied with a moderate resistance, but as your muscles strengthen in this position you will be able to put forth a substantial effort.

Although we offer a device which makes possible the practice of pulley exercises, you can practice pulley exercises following the Functional Isometric Contraction System, without the movement of the pulleys.

54. We will offer the pulley exercises in order. Pull down standing, straight arms. Keeping arms straight, avoiding body action, pull from various positions in an arc from overhead to the thighs.

55. Triceps exercise standing. Standing facing the pulleys with elbows against the sides of the body. Endeavor to straighten the arms downward with triceps action.

56. Lying curl. Lying upon floor or upon the bench, if you have one of these useful devices which is an accessory to the Super Power Rack, curl to the chest.

57. Pull down to thighs lying. Performed in same position as preceding exercise, but is done with straight arms. The various contractional positions range from arms length overhead to the thighs.

58. Curling to forehead sitting. Facing the pulley machine, curl to the head. Avoid making a rowing motion of this exercise by keeping elbows high and of course stationary.

59. Latissimus pull to back of neck, facing the Super Power Rack. From same position as in preceding exercise, grasp the

bar with the widest possible grip. Try to pull the bar to back of neck and shoulders.

60. Latissimus Pull. Similar to preceding exercise, except that you are facing away from the Super Power Rack as you try to pull the bar back of head, to the shoulders.

61. Rowing motion while sitting upright. Sitting on the bench, facing the bar of the super power rack, pull toward chest with a maximum effort. Your success with this exercise, will depend as much on arm and shoulder strength as it does on back strength, to keep your body in the proper position.

62. Rowing motion while lying face down on bench. Set your bench in a slightly inclined position, so that you can grasp a bar under the bench. Pull up as hard as you can while in the supine position. This is a type of rowing motion which does not permit any cheating.

Pulley exercises have been practiced for more than a hundred years with good results. But it has only been in the last two decades that heavy pulley work has been a part of advanced body building. All of the physique stars of the present spend a good share of their training time at pulley work. Pulley exercises serve best for building a broad back, and a broad, curved latissimus, in some positions they are unusual developers of the pectoral muscles. While they do place the muscles in operation in a different manner than most weight training exercises, while they do improve all of the upper body, they serve best as back and pectoral developers.

63. One arm rowing movements. Stand with one hand on the knee, set the bar of your Functional Isometric Contraction device, so that you can exert maximum force in the various positions of the slightly more than right angles rowing movement. Exercise one arm and then the other.

64. Floor pressing, with your feet on a chair, assuming the usual floor dip position, hold the several positions of the floor press. This is a good exercise, hold low position for six seconds, intermediate position for six seconds, high position for six seconds.

65. Although not a pure Functional Isometric Contraction exercise, practicing the Cat Stretch, Isometrically will bring good

results. Hold the very low position for six seconds, hold the parallel position for six seconds, hold the back raised to the limit position, for six seconds.

All of these result producing exercises will help build your strength, improve your appearance and your health. Best of all, their practice will save you time and energy when you consider the superior results you will obtain in a minimum of time. With the great diversity of exercises you can do, you will never find training monotonous. As you continue to train with this interesting and result producing method, many additional worthy exercises will suggest themselves to you.

If you are interested in some sport, golf, baseball, swimming, you can devise exercises which will functionally strengthen and improve your ability in these sports. Exert force and strengthen muscles in positions similar to those you use in your sport.

Variety Is the Spice of Life

IT has been said that variety is the spice of life. Variety in exercise may not be spice, but certainly it develops the best and the most muscle. It has long been one of our training rules, that it is wise to practice many exercises, the thousand exercises we have often called it, so that the muscles will be developed from every possible angle. There are 720 muscles in the body, and the more of these you can develop, the greater will be your strength, and the finer will be your physique. It is not wise to work the muscles in the same groove always.

A good basic Functional Isometric Contraction Course, consists of 8 to 12 exercises, Louie Riecke's 8 or Bill March's 12 will serve you well. In spite of the fact that these are good exercises, you will be wise on some of your training periods to change the exercises a bit. There are many good exercises, the practice of which will benefit you. You can not do too many at one exercise period, so you should rotate these good exercises, and perform one or two different ones from time to time.

Although we have listed 65 exercises, plus the basic 12, a number of these exercises are actually three different exercises, and as all exercises can be practiced in three or four different positions, you have over two hundred exercises which will serve you. You will obtain better results if you practice these exercises at times.

And don't fail to practice a variety of the various training methods we have suggested. Among these are:

1. Pure Functional Isometric Contraction—against Static resistance, the most commonly practiced.

2. Functional Isometric Contraction With Weights.

3. Muscle Contraction with Limited Movement.

4. Muscle Contraction with Unlimited Movement.

5. Medium, heavy and light system. Practiced as a part of Functional Isometric Contraction with weights. Using limit poundages on your heavy night, 80% of limit on the medium night. 3/5ths or 60% of your limit on the light nights.

6. Medium, Light and Heavy System with Pure Functional Isometric Contraction. This consists of applying maximum force for 12 seconds on your heavy night, 9 seconds of maximum force on your medium night, 6 seconds of maximum on your light night.

7. Changing tensions. As explained elsewhere, Isometric contraction is without movement but with changing tensions. Exert maximum force for 10 seconds, momentarily relax, exert with even increased maximum force for 10 more seconds. This is still one movement, simply a longer, more intense contraction.

8. One Minute a Day—The Functional Isometric Contraction Way. Usually practiced with the Big 5 for 12 seconds, or six exercises, two presses, two pulls, two bends for 10 seconds each. You could on your light night, your 6 second maximum contraction night, perform ten exercises for 6 seconds each. You will be thrilled, pleased, and excited at the results you obtain from even these limited Functional Isometric Contraction routines.

9. There are 1440 minutes in a day, time enough for many things. As exercise is the most important essential of health, as it is the only way to build strength, and as strength is so necessary in all the phases of living, particularly in participation in athletics, I can hardly understand why some coaches think they do not have time for an actual minute of maximum contraction. Many coaches are using abbreviated programs with the mistaken idea that they do not have time. They do have time, they should take time,

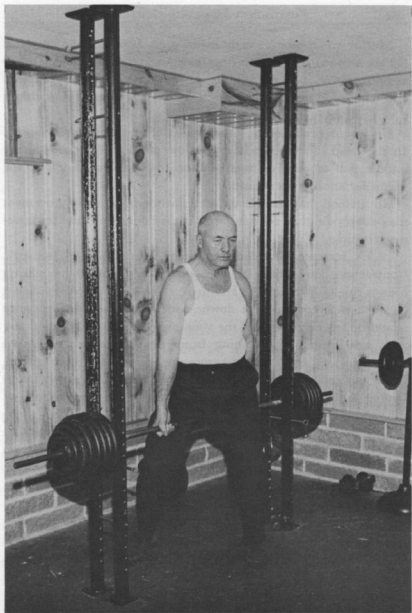
for building strength, the most important characteristic of a man or an athlete in any branch of sport. Those in a big hurry, individuals and coaches, practice three exercises. These can be one press, one pull, one bend. But too many coaches, with their insistence on a minimum three, have their charges practice one press, one bend, and the raise on toes. These are important, but the pull, the back exercise, is of equal importance. A man runs and jumps with his back, if you have an injured back you will find how true this is. A man's seat of vitality, of his vigor, is in his back. It means so much to develop the back, so instead of eliminating the pull, the back exercise, to put in the toe raise, have the usual three, press, pull, bend, plus the toe raise. The shoulder shrug will help a great deal too, in rebounding, and as strength builds control, it will mean a great many more baskets for your team. Therefore, the minimum should be the Big 5.

10. A number of men who seem to have gained good results, will press, pull or curl the weight from the pins, and when they have it at the desired holding position, instead of holding it against the pins, they will move it up and down for an inch or two. Although this spreads or diffuses the effort a bit, it is still a good exercise and will rapidly build strength.

You will have an endless variety of good result producing exercises, if you have and use all of the accessories of the super power rack, and practice the 16 types of training, the rack and the accessories permit. Lots of spice and good results in this program.

11. Here is a somewhat different form of Isometric Contraction training that Louis Martin of England thinks helped him improve his lifting ability. Louis Martin unexpectedly won the world's championship in the 198 pound class at Warsaw, Poland in 1959. He totalled 980 to win.

Although he did not quite keep pace with Palinski of Poland, who must have had his own form of Isometric Contraction training as during these two years he improved from a total of 953¼, lifts of 281, 286, 385 to a 1047 total made up with lifts of 325, 308, and 418. Martin gained too, but not as fast as the great Polish lifter.



The straddle lift again. Bob Hoffman, using over 500 pounds in this excellent exercise.

Martin would take a weight in the press, hold it at the shoulders for six seconds, press it to near lockout and again hold it for 6 seconds, lower it to the middle or sticking point at top of head and hold it for another six seconds, a rigorous program, but alright if you can do it.

He would practice the other basic lifts in the same manner. In the dead lift, 6 seconds at the low position, 6 seconds at the middle pull or raise on toes position, back to the middle of the thighs for another six seconds.

His method may have had particular merit, or his improvement may simply be that constant training is bound to cause improvement in time.

12. A somewhat similar movement is done with Isometric Contraction combined with very slow movement. It has always been a rule of York or Bob Hoffman training that exercises should be done with comparative slowness so that the weight resistance would be felt every inch of the way, as the weight was raised and as it was lowered. Combining Isometric Contraction with slow movement, so slow that the movement is hardly perceptible. In the curl, start in the low position, and move up so slowly maintaining the contractional pressure with the weight every inch of the way.

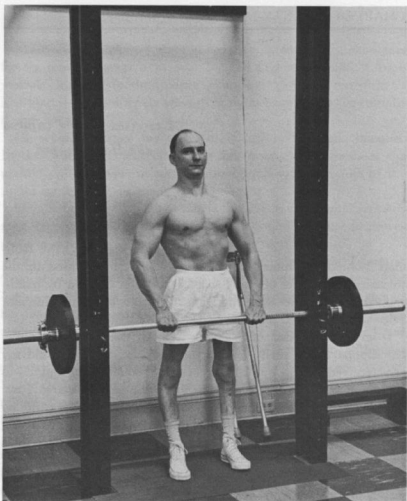
Exercise with the press in a similar manner, the same for other movements. The combination should bring good results, for we know that any form of Isometric training is good, and slow movements where the weight resistance can be felt every inch of the way is good too. We call this Measured Movement, and it is practiced with 10 seconds for the contracting movement, 10 seconds, for the lowering movement, 10 seconds rest, Usually 6 movements are practiced in this manner. When the weight is very heavy, 5 seconds up, 5 down, 5 rest may be a better system.

Exercises for the Injured Or the Handicapped

WITH a little ingenuity, the Hoffman Isometric-Isotonic Super Power Rack can be used in the treatment of injuries of many sorts, and it can be used by handicapped men who are suffering from the effects of Polio, Muscular Sclerosis or similar diseases.

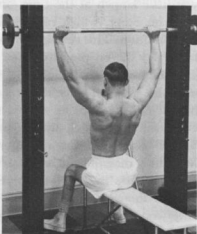
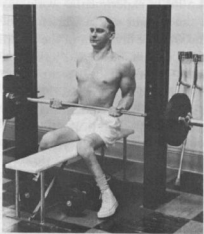
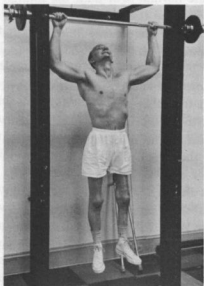
It served the author of this book well. In Vienna, my chinning bar slipped and I really landed on my back, my head and my arm received such a bump that there was some blood and I was just about knocked out. I was still dizzy the next morning. I am tall, and can not do the hanging exercise properly on a chinning bar, I am heavy too, which puts an added strain on the chinning bar. I sometimes hang with the knees bent, and there is a good chance that I might come down on my knee caps with enough force to hurt them. I put a pillow under them for safety. The other way is to lift the legs front. That is what I was doing when I fell. I had occupied this room for about ten days, had trained nearly every day, had tested the bar with bodyweight or heavy resistance nearly every day, but this time as I thrust my legs front with apparently too much emphasis, I came down as if there was not a bar there.

I showed our team physician my badly cut elbow, and he said, "You'd better watch that arm." I did watch it, watched it swell



A young American we are mighty proud of, Emil Rottler, who teaches English at Hannah Penn High School in York. He is a member of the same faculty as Tony Garci, also a teacher at Hannah Penn, a member of the American Olympic team and national 148 pound champion.

Emil Rottler graduated from York High School, he graduated from Shippensburg State Teachers College, gained his Master's degree at Broadloaf School of English. At Middleburg College Vt., in spite of almost complete disability in his legs, he became a polio victim at 12 years of age. In 1957 he started to train under the supervision of Jules (Mr. America) Bacon one of the executives of the York Barbell Co., and has made good progress. He weighed 117 when he started training with Jules, now 135 he started with a $14\frac{1}{2}$ inch arm, now $15\frac{3}{4}$, he started with a 37 inch chest, now $41\frac{1}{2}$. He has the body of a 180 pounder above the waist, is improving somewhat in his leg development as he has gained a full inch in leg girth, after 21 years of being a polio victim. His favorite exercises are performed with the Hoffman, Isometric-Isotonic Super Power Rack.



up to a large size and get so stiff I could barely move it. It remained large in size for some time. I was in Baton Rouge and a number of the men who saw me exercising said they had never seen such a big arm. Much of the size was the swelling. I did not give up exercise for a single day, I practiced exercises without movement, exerting much more force with the normal arm than the injured arm and finally the injured arm became normal. And one of the best results was a powerful right arm that easily matched the left arm in strength and development although used much less for some weeks.

With many injuries, a similar method can be used. If one arm is hurt, press and pull hard with the other arm as I did. If one leg is injured, exercise mightily with the normal leg, exercise with moderation, but progressively with the injured leg. If both legs are hurt, practice exercises with the bench, sitting and lying on the bench.

The same blood which courses through your body goes to the brain, the big toe and all intermediate points. Stimulating exercise which benefits one part of the body will also benefit the part which is handicapped. I believe the best proof of this was the training of Steve Stanko. In 1940, Steve started to suffer from deep phlebitis, an inflammation of the deep veins. This type of phlebitis was little known at the time, and a lot of experimental work was done on Steve, which resulted in much pain and a worsening of his condition. This strong man, who was the first man in the world to total 1002, on the three lifts, press, snatch, clean and jerk, who was the world champion and world record holder, went down until he weighed only about two thirds of his original 240. But he did not give up, he started to practice lying and sitting exercises, using the bench and the power racks we had in the big York Barbell Gym. He did absolutely no leg exercises for years. And he built a magnificent body, so outstanding, that he won the Mr. America title in 1944. Four years after his difficulty, which his doctors thought was the result of an old football injury, he not only won the Mr. America contest, but also the special division, "Best Legs". In 1947, seven years after the beginning of his phle-

bitis, seven years without leg exercises, he won the first Mr. Universe contest, and in the special divisions, he also won the title "Best Legs". Unusual and definite proof that exercising one part of the body benefits another.

With the Super Power Rack and its accessories, some form of exercise can be devised for every injured or crippled condition. A host of polio victims who have almost no leg development, have developed magnificent upper bodies. At a party recently, I saw a man walk in with a pair of half crutches. His legs were almost as bad as if he was a paraplegic, but I could see the huge muscles of his arms and shoulders, the muscles of his back, through his coat. Jules Bacon told me that he is one of the most faithful users of the Isometric Super Power Rack, and he was the main reason why he (Jules) had to install another Hoffman Isometric-Isotonic Super Power Rack.

Just last night, Jules Bacon, a long time important member of our organization, formerly Mr. America and a Mr. Universe winner, related another interesting story. He told me that another man, who attends the gymnasium Jules operates in York, in the evenings, when his work is done with the York Barbell Co., had a stroke, and like so many of the victims of this sort of a stroke he was paralyzed in the left arm. Could barely move his arm, could not lift it over his head. Jules started him exercising with the right arm, soon had him holding the bar overhead. At that position he would progressively pull and push. And now he can do ten pull ups and presses with 45 pounds. Not much, for advanced weightlifters, but very good for a man who expected to be crippled for the remainder of a short and pain-filled life. Jules said, that his most recent remark was, "God Bless Bob Hoffman for inventing the Super Power Rack and the Functional Isometric System of Training which made his recovery possible."

I know of another case of a man who had arthritis to such a hopeless extent that he was finally sent home from the hospital as they felt that there was nothing they could do for him. His friends were devotees of exercise and they started him lifting a milk bottle with clenched hands. His hands were clenched into

a ball, and he could not move his fingers. After exercising for a time with the milk bottle exercise, he graduated to small dumbbells, they are made in various sizes for the first ten pounds in one pound graduations, and thousands upon thousands of them are sold to hospitals for the use of their patients. Thousands of Iron Health Boots, another training device which was developed and promoted by the author of this book, are also used for rehabilitation work.

After a time the man about whom we are writing, was able to move his fingers, able to walk and then to run. Now he can press 160 pounds and can run a mile. Truly, exercise combined with heat and massage, is the best doctor of all.

During the war, over a hundred thousand sets of weights were sold to the U. S. government by the York Barbell Company alone, to be used in physical rehabilitation of wounded and injured men. Soldiers started to exercise almost within minutes after they became conscious after their surgery. They would clench and unclench the hands, move the feet, and perform any other movements they could. They would progress through the range of dumbbells and springs, flat rubber bands, then to barbells.

It was found that the men who exercised, recovered four times as fast as those who did not, wounds healed four times as fast, men went back to their organizations in good condition, able to serve their country in some important capacity immediately.

Although the Isometric principles were not known at that time, superior results were obtained with straight weight training. Think how it will be in the future if there is a need for considerable more rehabilitation, it will be done even faster the Functional Isometric Contraction Way, with training on the Super Power Rack.

We have visited a great many veterans hospitals giving exhibitions for those who are confined in them. We have been impressed with the exceptional development of the upper bodies of Paraplegics, who have trained with weights, those who have a broken or severed spinal cord, the result of war wounds or accident. With this condition, there is little actual life, no possibility of movement

of the lower limbs, yet exercise is important. Instead of just laying in bed, waiting for death through kidney or bladder diseases, the smart, well guided Paraplegics, exercise to the best of their ability. Their legs have blood in them, they are alive, and when exercise is practiced which improves the circulation, the legs of the paraplegic are benefited too. Also his internal organs.

Exercises for the Paraplegic practiced on the Super Power Rack will make it possible for him to be so strong, that with braces and supports, he will be able to get around, help himself, and lead a near normal life. I have often said, that I will always exercise regardless of my age or possible condition. For I know better than most men, the value of exercise, I have seen so much of it's favorable results. One of my favorite stories appeared in the magazine of the American Medical Association Today's Health recently. Twenty-two people were in such an advanced state of gangrene, that amputation seemed to be the only course. For the benefit of the few uninitiated or uninformed concerning this condition, gangrene of the legs results from poor circulation, almost no circulation. Usually it is the result of arteriosclerosis which reduces the internal size of the arteries to a point where sufficient blood can no longer be carried to the needed places. A vicious circle takes place. Less blood, less movement, less movement, still less blood to the extremities. Often amputation is the result.

But a well informed, thinking doctor, thought he would try something new, something different, before amputation, have the patients get up and walk. Exercise is not exactly new, in fact his system was only what Jesus Christ did in curing so many of his patients. His advice to them was to, "take up thy bed and walk".

Of the 22 suffering people, 21 got out of bed and walked to the best of their ability. One woman did not get up, her relatives thought that it was cruel to expect a woman in her pain filled condition to walk. She had both legs amputated which was cruel enough. But the other 21 people saved their legs.

There are two morals to this story. One is that even a little exercise is better than no exercise. Slow walking is about the mildest form of mild exercise, it consists of little more than standing on a

column of bone and sort of falling forward, catching oneself with one leg after the other. But it did create some circulation and this circulation did overcome the condition of gangrene to a sufficient enough extent that amputation did not occur, according to the magazine of the American Medical Association.

The other moral is, that an ounce of prevention is worth more than a pound of cure. If the mildest form of mild exercise will benefit the second most insidious disease from which humanity suffers, (cancer can be worse) think how well more vigorous exercise can prevent these diseases and physical irregularities in the first place.

I was talking to a nurse recently, and mentioned that I was a leading contender for the title, "World's healthiest man", I mentioned this for as I was introduced, I said that I was not very well acquainted with doctors, hospitals and nurses, for I had enjoyed almost unequalled health for over a half century. She said, "Don't you think you might have been a little lucky?" I said, I doubt it, for during the first ten years of my young life, when I was sick just about all of the time, when I had just about everything that could plague a boy, I had good proof that in the beginning I was no different than anyone else. It has always been my belief that exercise, progressive, stimulating exercise, is the most important essential of health, the best preventative of disease. It has been said that the body is fearsomely and wondrously made, but it is designed to operate with efficiency, and when you are sick, it is only proof that you are not treating your body right, that you are not living right. When you do not feel quite up to par, think, think what you have been doing that is not to the best interest of your body, to you, there is an effect for every cause, and a cause for every effect.

There are other rules of health, such as good nutrition, obtaining sufficient sleep rest and relaxation, the maintenance of a tranquil mind, but exercise is the most important rule. Get your share of it. Although we do not recommend irregularities of living, if you insist on going to a party and drinking and smoking, overeating along with your "crowd", you will experience less of unfavorable

Many People Have Been Almost Doing It

MANY people when they first learn of the Isometric principle say, "Why I have been doing that for thirty years, or twenty years, or ten years," depending upon how old they are. There is no question that many athletes came close to the Isometric principle in their training, but it was accidental, they did not know what they were doing. In my own case for instance, having exercised regularly since I received a pair of five pound dumbbells for my tenth birthday, I have more than 50 years of athletics and weight training behind me. I have trained in a diversity of manners, as have so many others of the fairly old timers in the athletic and strength field, some of these ways have been close to the Isometric principle.

When my two older brothers visited me lately and I was showing them my home gymnasium, and my new course Functional Isometric Contraction for weightlifters and body builders, they said, "that's the way your father trained." So often I have said that my father had more muscles than I have seen since and we must remember that I am in the muscle business, and I have seen thousands of extraordinary physical specimens. He exercised incessantly and he could make most any muscle group in his body feel like blocks of wood. I always believed that his exercises verged more on the tension type, than Functional Isometric

consequences if you practice exercises, and the new system, Functional Isometric Contraction, preferably with weights. It is the best way to a better, a longer, a happier, a fuller, a more successful life for you.

And of course there are a great many athletic injuries. This is where Isometric Contraction has served well and long. It has been proven that exercises without movement, Isometric Contraction, can be practiced even when a limb or a back, or a shoulder has been badly hurt. Recovery will be rapid and complete as it was with my own damaged arm. It will be as strong or stronger than it was before the injury. It does not require a great deal of ingenuity to apply Functional Isometric Contraction to any injured condition. You will bless the day that you learned of this system, just as does the man we told you about. Good Luck to you.



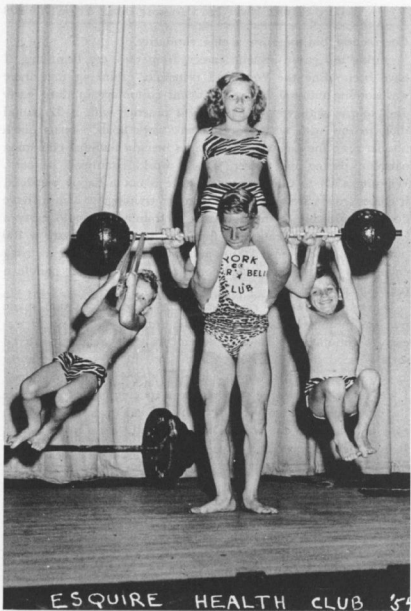
When Bob Hoffman visited Yuri Vlasov's home in Moscow, this photo was taken. Yuri is the Olympic and world champion, the greatest Soviet weight lifter, holds the two hands snatch record at 358, the clean and jerk record at 462, the total record at 1212. We believe he is the first Russian to train the F I C way.

Contraction, but there was a close similarity.

During my entire athletic career, from the very beginning, I have been using the "overload principle," thinking that there was nothing unusual about it. It was customary in those early days to run with weighted shoes, to practice with a 32 pound shot, to row with what were called "work boats," boats much heavier than the racing boats. Besides being a national champion oarsman during my career, I was world champion canoeist. Winning a U. S. title or a world title is not a happy accident, it comes from hard training and proper training, so I must have done considerable of the right sort of training. I would carry a sack of sand in my canoe, at first a 50 pound sack, later a 100 pound sack, and even a 200 pound sack. When I became strong enough to paddle this added load, naturally I could paddle a racing boat easier.

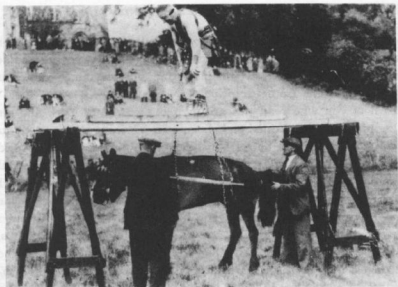
During the winter I rigged up some contraptions that made my family think I was verging on the "muscle nut" class. It was easy to simulate the rowing movements with weights, with all sorts of dead lifts, high pulls, cleans and the exercises we know as rowing movements, but in canoeing it was not quite so easy. I was doing one exercise standing on a rocking chair to simulate the movement of a canoe, with a cut off paddle, fastened with a rope to a hook in the wall. That was pretty close to Isometric. It must have helped for I have the championship canoe trophies in our big Hall of Fame in York, and I was never beaten in a quarter mile canoe race.

When I worked with Warren Lincoln Travis, the great strong man, at Coney Island, my job was to stand out in the crowd while he gave his exhibition, and when he asked people to come up on the stage to try to lift his weights, I would lead the crowd on the stage, and after many men had failed to lift the 1600 pound, world's largest dumbbell, which is now resting above the door in our big new Strength and Health Center on Ridge Ave., I would lift it. There were 80 performances a week, and as I received 80 dollars a week for my part of the performance (very good money in 1924) I received a dollar for each 1600 pound lift. This

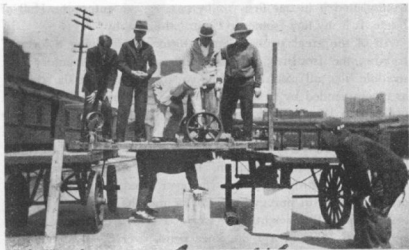


Paul Oudinot Jr., started young, became a great lifter. Functional Isometric Contraction exercises such as this, helped him on the road to fame. Here he supports his brothers and sister.

and T. J. Oudinot Jr. (left) and T. J. Oudinot Jr. (right) are the only two people in the world who have ever performed this feat.



We don't believe that the horse enjoys this exercise, but it builds strength for George Gray, a strong man from Scotland. The lifter weighs 148, the horse 900 or 1000 pounds. No way to weigh it accurately.



An impromptu feat by D. B. Mills of Cincinnati. A novel back lift of 1500. Holding this weight for 6 seconds or more, makes it an F I C exercise.

was Isometric, although I did not know it, for I would hold the bell suspended for a few seconds, at least 6 or 10, so the people could be sure it was off the platform, and of course, that was very close to the Isometric principle.

All of you who read this are invited to come to York and see the place where Functional Isometric Training With Weights had its start, to visit our establishment and see our already world famous Hall of Fame. In this Hall of Fame, we have the 30 national championship trophies our weightlifting team has won, the 21 world's championship trophies our team won. We have some magnificent trophies, one of the greatest collections of trophies anywhere in the world, hundreds of my own trophies. Perhaps, the one I prize most is the Richard K. Fox Belt, given to the strongest man in the world in 1906. It is made of silver and embellished with diamonds and rubies, and is worth at least five thousand dollars. Warren Lincoln Travis, died as is inevitable with all of us, and his nephew gave the trophy to me, as he had watched me performing with his famous uncle, when he was a little boy, and I was one of his boyhood heroes. It is a beautiful trophy, and is in our first trophy case as one enters the Hall of Fame. It is my first Isometric Contraction trophy.

All of the great strong men in history were doing a form of training the Isometric way. Hip lifts, back lifts, shoulder lifts, straddle lifts, all would hold the weight for at least six seconds, as recommended by so many advocates of Isometric training, we prefer 9 to 12 seconds ourselves for we feel that a second or two is lost before maximum contraction can be exerted and with this lost time, there is a loss of desired results. Paul Anderson, Olympic heavyweight lifting champion, holder of world records, very definitely the strongest man who ever lived, right now in his prime, trained in our gymnasium for months as he was coming to the top of the weightlifting world. He used enormous poundages, up to 2000 in a 1/8th knee bend, over 5000 pounds in a back lift. Although he did not know he was verging on the Isometric, he would hold these weights after he lifted them, for at least the 6 seconds recommended by so many. In practicing the

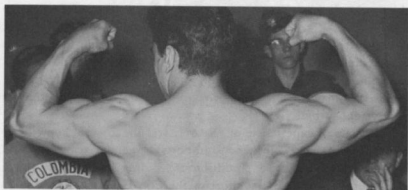
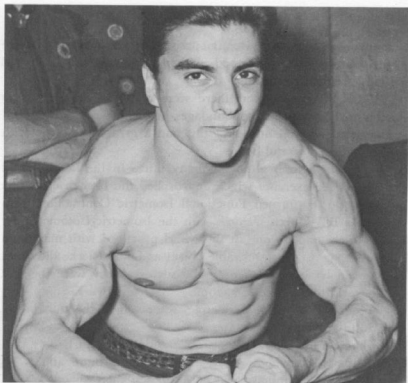


Stone age man, testing his strength. From the beginning of time, men have tried to prove who was the most man, by lifting logs and stones.

three International lifts, although most of his efforts were what we now call Muscle Contraction With Limited Movement, a lot of his training was almost pure Isometric. He would take the heaviest weight he could handle, on the press rack, and his official world record is 408 pounds in the two hands press. He made this record in the world's championships in 1955 at Munchen, Germany, this was all he could get to his chest, or he would have pressed more, for he pressed 434 from the rack in Munchen and he since has pressed 455. He would press a very heavy weight as high as he could, and while he was struggling to press it higher, he would certainly hold it for at least 6 seconds. He would lower a very heavy weight from overhead, lower as far as he could, and still press it up, and he would be holding it at the lowest position for at least six seconds. There was a lot of the Functional Isometric Contraction principle in the training of this famous strong man, this world's strongest man. But he or even we, did not know that he was training in a way which verged on the Isometric, for the term was not generally known at that time.

One of the other lifters, who came closest to the Isometric principle, is Charlie Vinci of the York Bar Bell Club. The strongest little man in the world, twice Olympic champion, who established three of the four world's records in his class. Small as Chuck is, he is the champion in the bantamweight class, 123½ pounds, he would take 500 pounds from the rack, hold it on his chest and try to press it. He would be holding it for more than 6 seconds. He became the first man in the world to press double bodyweight, 250 pounds when he weighed less than 125 pounds. It was at his insistence that we built the rack which is like a pair of steps which has been in our big gym for nearly eight years as this is written, made and placed in the gym in 1954. With this step like rack he practiced bends, pulls and presses, very similar to the movements we are practicing today. It helped him, for he has a muscular development which is almost unequalled in the world today.

When I was a young man, many people were practicing what was known as a "Health Lift" some of the old timers, notably Adrien Schmidt, who was famous for his strength, was promoting



Chas Vinci of the York barbell Club, won the bantam weight (123 1/2 lbs) at the Melbourne Olympics and the Rome Olympics. We gave him one of the first super power racks, 700 pounds more weight to go with it. He now weighs 144 pounds and we don't know what we will do in the future for a bantamweight. Can you imagine more than 20 pounds of additional muscle on the body shown on this page.

a course with such a device. It consisted of a machine or device over which the exerciser stood, with a belt and chain, and was actually practicing Hip lifts.

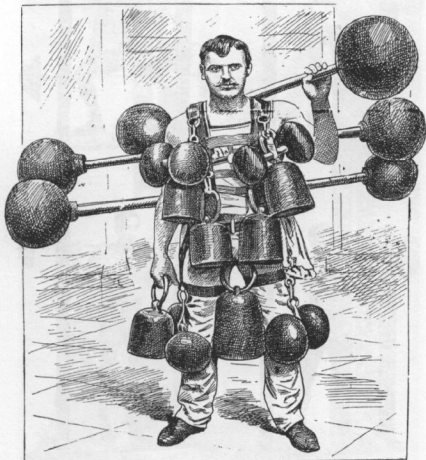
All the old timers, and there were many, performed single maximum lifts with great poundages in their various lifting and supporting feats and no doubt this had a great deal to do with building their powerful bodies.

As we said before, although many lifters in the last hundred years practiced exercises which approached the Isometric, no one in the world, performed Functional Isometric Contraction, with weights as Bill March trained, with the Isometric-Isotonic Super Power Rack, and no one in the world practiced with maximum resistance against an immovable object as Louie Riecke did, both young men having such sensational success. They were the first in the world to practice this fabulous system. It was a completely new utilization of an old principle, the result of the thinking of Bob Hoffman and his associates.

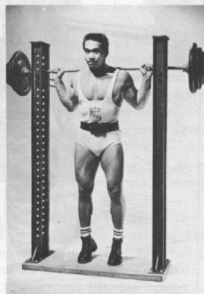
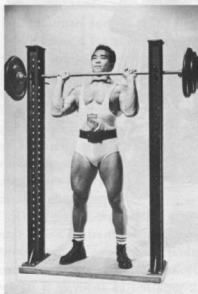
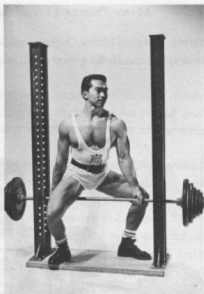
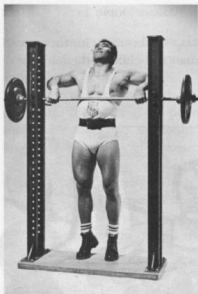
We know a lot about this form of training. I don't believe that we are immodest when we say that we know more about this form of training applied to heavy athletics, than anyone else in the world. It is natural that we should know more, for we have had by far the greatest experience. Individually, and collectively, the members of the Bob Hoffman Foundation have many years of research, study, experimentation and demonstration of this revolutionary method of training, which we for the first time applied to heavy exercise, to weight training, to heavy athletics and weight lifting.

The years of experience, of research and the general know how, and a lot of hard work, consultation and much travelling has brought us to our present position of training knowledge. And I can assure you that every effort of the Bob Hoffman Foundation which is devoted to building a stronger and healthier America, the efforts of myself and my associates will continue to be devoted to doing more with this wonderful training system, this break through into a realm of little known training principles, of sensational physical improvement, a system which will not only produce

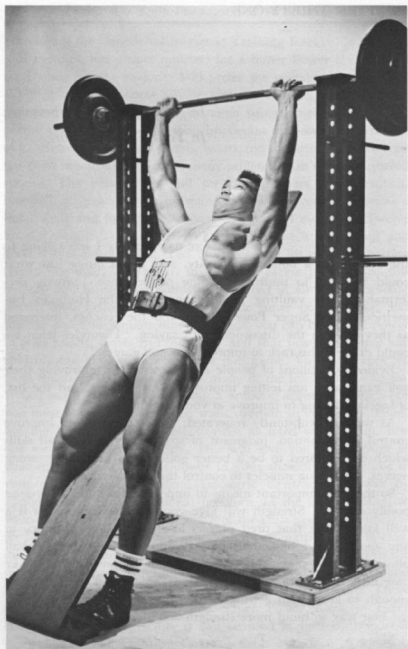
better weight lifters, better athletes, better men in the armed forces, but can help every man, woman and child in the nation.



A favorite feat of the old time strong men. Anton Riha is shown here supporting 1400 pounds. He does it easily and apparently if he could find more places to hang weights he could equal or exceed the world's record for this type of lifting, held by B. Stein of the Athletic Club of Sparta in Bohemia. F I C exercises, without their knowledge, built the great strength of the old time strong men.



Tommy Kono hard at work with his portable power rack designed for Functional Isometric Contraction With Weights. This is a strong, inexpensive power rack, which permits a great variety of result producing Functional Isometric Contraction Exercises.



Improving Your Performance In Your Favorite Sport

ONE day recently I was talking to the coaches at a famous university, and I was citing just what could be done to improve running performance, jumping performance, pole vaulting performance, with the Hoffman Isometric-Isotonic Super Power Rack, and the coaches, interested as they were in the discussion, kept saying, "I wonder what we could do with this rack to improve our golf games."

Evidently, millions of people are interested in improving their golf game, so I am letting improvement at golfing lead the list, of special training to improve at your favorite sport.

As we have constantly reiterated, more strength will improve control, coordination, judgment of space and distance, all skills which are required to be a better golfer. You must have strong nerves, and strong muscles to control the various strokes.

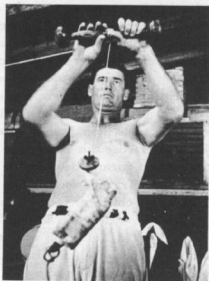
So the most important means to improve is to build all around bodily strength. Strength will give you more endurance. It is a well known fact that tired players lose control and accuracy in any sport. Tired basketball players miss baskets, tired football players do not play well, tired baseball players seldom make base hits. If you are playing in a tournament you need strength enough to keep from getting tired. More strength will help and the best way to build more strength is with the strength building

exercises of the Functional Isometric Training Rack.

If the club has proper quarters for a Super Power Rack it will serve well, but the majority will prefer the portable type of rack. While it will not permit all the forms of training, which can be practiced with the Isometric-Isotonic super power rack, it will permit many of them. The most important of these is the winding of a weight to strengthen hands, wrists and forearms. This exercise has been practiced by a great many athletes, with much improved success. The best hitters and the best pitchers in professional baseball, all practice this exercise. A stick and rope, known as a hand wrist and forearm developer is a part of every Big Twelve Special weight Training set. With it a weight is wound up and good results are obtained. Ted Williams with his over 400 batting record one year, well attests to this fact. Jackie Jensen used this method and so did Lee Wahls who starred in all star games and pitcher Bob Feller. With the Isometric super power racks, and the bar and attachments that go with it, you can build real power in your hands, wrists and forearms, and that power will give you control, and greatly improve your golf game. You may work up to as much as 100 pounds, as so many of the leading athletes do.

You must of course, develop a smooth accurate swing, but you must have power too. You want strength in your sides. Holding the bar at shoulder height, twist as hard as you can, first one way, and then the other. This will give you more power in your midsection and more power in your shoulders. Take one of your clubs, build Functional Isometric Contraction power by applying it in three functional positions, in the same position as your golf swing. Hold the pressure of the club against the upright for 9 to 12 seconds. Putting practice and strength control is easy, just press your putter hard as you can against the standard in the proper position. With these strength building movements and regular practice you should greatly improve your score. There should be an Isometric-Isotonic Super Power Rack in every country club and golf club, it can be used in turn by hundreds of members. The Outdoor Country Club outside of York, was the first Golf Club in the nation to install one of the Isometric-

Ted Williams of the Boston Red Sox, who has won so many American league batting championships, has long trained with weights. Here he illustrates one of his favorite hand, wrist and forearm developers, which has played such an important part in developing his batting ability.



The great Ted Williams, the highest paid man in baseball. Top batter in the American league last year with an average of .388. During his entire major league career Ted has used weights to strengthen his body. Proper conditioning via sensible physical training can add years to the active career of any athlete, just as it has for Williams.

Isotonic Super Power Racks. It is doing good work for all the members, they like it. It is improving the game of the club champion, as well as members who are not quite so skilled.

As tennis is a game which requires great speed, one might wonder how training on an Isometric-Isotonic Super Power Rack could help the playing skill of those who play this game of world wide popularity. As we have said many times before and will say many times again, strength increases speed, strength increases endurance, strength or power is necessary in the playing of top flight tennis. Control which results from building strength is essential to good tennis.

First you should strengthen your entire body, inside and out, by practicing one of the Functional Isometric-Isotonic Contraction routines. A favorite is the Big 8. The two presses, the two pulls, the two bends, the toe raise and the shoulder shrug, or the Famous Five, the single press, the single pull and the single bend, plus the toe raise and the shoulder shrug. Make this building of strength and all that goes with it, a must in your training.

Practice the hand, wrist and forearm developer which has worked so well for all who participate in games where control is needed. This can be practiced with either of the Steel Super Power Racks. You will need the required attachments, the bar, the strap and the weight attachment. Another good exercise for the tennis player is the attachment which permits pulley training. You should make a special effort to develop your latissimus dorsi muscles, the muscles which do the major work of stroking, the muscles which are designed to pull the extended arm down as in hitting with an axe. This can be done with the pulleys, and also can be done by pulling with the extended arms against the bar set in various positions.

To build real power in down stroking you can practice a bench press exercise in which the arms are extended against the bar and the force is delivered by raising the shoulders. You can strengthen your side and back hand swings, by pushing against the up-rights in the desired position, either with the racket or hand.

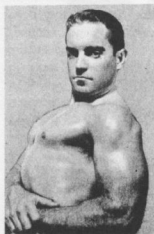
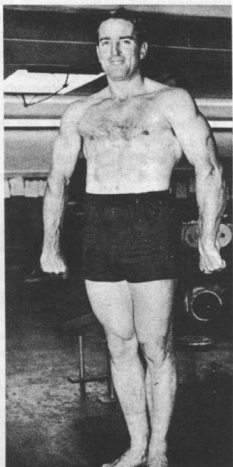
STRONGER BOXERS—BETTER BOXERS

Build functional strength inside and outside the body with the Big 8 or the Important 5. The toe raises and the leg bends will build unusual strength in the legs, the pulls will build the strength of your back, make you a more solid target, and build your vitality. The presses as well as the pulls will build powerful arms which will guard well and deliver a powerful blow. The hand, wrist and forearm developer will give you powerful hands which will strike a more solid blow and will not be injured. Strength in the forearm will help too.

You need to strengthen your arms and shoulders in the line of your delivery of the blows. To strengthen your upper cut, a blow which is not much used, the curl will help, to deliver a hook you should hold one of the standards while keeping your arm curled inward and press as hard as you can. To deliver a jab or a straight right, press hard forward against the uprights of your machine. Pressing on the bench will also strengthen your delivery.

Better Canoeists. Canoeing is an American and a Canadian sport, but unfortunately we have had no winners for a number of Olympic games. Strength plays an important part in canoeing, one can see the tremendous muscular development of the Doubles winners at the Melbourne Olympics in the arms and shoulders, as pictured in the *Better Athletes* book, but endurance is the most important attribute of a star canoeist. The ability to keep going is more important even than paddling skill. As strength is such an important part of canoeing it is so important that you build your strength to the maximum.

Pushing against the paddle is a strength you wish to develop. This can be done by inclined pressing and by pressing against the bar. Pulling with the other arm can be developed by pulling down against the bar. All around strength which will be developed by a complete course in Isometric Contraction and with weight training, will greatly improve your performance. This strength will make paddling so much easier that it will add to your endurance, it is easier to keep going with an easy job than a hard one.



For 15 years, Frank Stranahan has been one of the world's best golfers. His barbell built muscles are the biggest reason for his continued success.

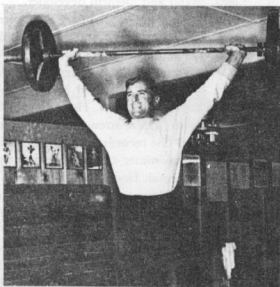
Better Cyclists. Cycling is not a popular sport in this country. Boys and girls do it, although it is a dangerous pastime on the roads today. We do not have the opportunity or the inclination to win at cycling in this country. Most of the best cyclists are from Europe; France, Italy, and of course, the communist countries of Hungary and Russia, where they put forth a great effort to win everything they can. But, cycling is a part of the overall program of the Olympics and as we try to win the entire program we need cyclists.

Cycling is mostly leg work, and the exercises of the Big 8 are worthy exercises for cycling, the raise on toes is especially important. To develop all around leg and calf strength, practice with the toes turned in, turned out and straight to the front. Practice with the effort applied Isometrically to the various leg positions. As a good grip helps, do the special exercise of the hand, grip and forearm developer. Don't neglect the back exercises, it is at the seat of your vitality and your endurance. Build strength, but, ride a lot too. Foreign athletes think nothing of riding a hundred miles in a day of training.

Gymnastics. Weightlifting and gymnastics have always been closely allied. The gymnasts in all countries are weight trained. In Russia, in particular, a good share of the masters of sport, the international stars in gymnastics, are also masters of sport in weightlifting. Strength more than any other one thing results in stardom in gymnastics. As Functional Isometric Contraction is the best, the fastest way to build strength, it will build the kind of strength the star gymnast needs. The margin between splendid success and miserable failure in this sport is a collection of very small things. More strength could easily bridge the gap between a failure on the part of the American team to score in Olympic gymnastics and in winning a few points. One Russian gymnast won four firsts and two seconds. One Russian woman, scored two firsts and two seconds. Unusual strength was much of the reason for both of these successes.

Soccer football is not too popular in this country, but it is played over most of the world. It is a hard game and takes a great deal

of endurance. Star soccer football players have to be strong as well as fast. Therefore, it is wise to practice at least the Big Eight. A good neck is important in this game, so practice Isometric exercises to develop the neck. As the field is large and there is a great deal of running and kicking of the ball, the three knee bends should be practiced, as well as considerable raising on toes. To develop the kicking muscles raise the leg in the kicking position, exerting maximum pressure against the bar in the Isometric position.



It did not take Frank Stranahan long to learn about the Bob Hoffman System of Functional Isometric Contraction. As soon as he heard about this valuable new system of training, he called from Phoenix Arizona where he now lives and ordered three Hoffman F I C Super Power Racks. How he can use three racks, we do not know, but we shipped them to him. He was the first professional golfer to benefit from this wonderful new system of training.

Wrestling. Practice the Big 8 and exercises with the winding belt to develop the hands, wrists and forearm to the limit. A big, strong neck is an asset in wrestling. And we must remember that Norbert Roy, the captain of the Notre Dame football team, increased the size of his neck from $16\frac{1}{2}$ to $19\frac{3}{4}$, without specializing in neck developing exercises. Dead weight lifting, and the high pulls, including the shoulder shrug built Roy's powerful neck.

Rowing. All of the exercises of the Big 8, are helpful in rowing. The press has lesser value for rowing, but it builds muscles which will help a man in any form of physical endeavor. The various pulls, the knee bends, the raise on the toes and the shoulder shrug have particular value. Strong hands, wrists and forearms have great value, so there should be considerable practice of winding weights with the wrist, hand and forearm developer.

Swimming. Swimmers should be strong. The records have constantly improved, times are lower and lower. Johnny Weismuller swam 52 seconds for the 100 yards, we have a fifteen year old swimmer, who was swimming the hundred in 49. We thought we had a champion, but he did not even place in the national championships, the winner swam 46-8. He was an 18 year old youngster who did a great deal of strength building training, as well as swimming training. The records are being bettered because swimmers are stronger. A swimmer can get stronger through the regular practice of Functional Isometric Contraction exercises. So practice your Functional Isometric exercises nearly every day.

In the butterfly type of swimming a very strong lower back is needed. And this can quickly and easily be obtained by Functional Isometric Contraction training. For free style swimming, more strength in functional positions can be obtained by pulling down on the bar with the hands so placed that the palms are down, the exercise offered with the Isometric 12 without apparatus, where you pull down with arms straight, pressure being applied to the top of the bar.

To develop a stronger kick, lie on your abdomen on a low bench, set the Isometric bar so that you can exert full force against it with your legs in the kicking position. These exercises will build

strength, and they should help you greatly in becoming a better swimmer.

Diving requires unusual control of the entire body. Strength builds control, and strength can be obtained faster through Functional Isometric Contraction. As you build the strength of your entire body, you learn to control your entire body better, and be a better diver. The raise on toes of the Big 8, will be a worthy movement in helping the diver perform well.

Lee Walls, professional baseball player, who played as a member of the All Star team, does not think that he has done enough weight lifting to be termed a weight lifter, as the Sports writers usually designate him, but he is convinced that the limited weight training he has included in his physical program, has helped him greatly.



The back hand curl, and the twisting curl, are two favorites of Lee Walls. They increased his hand, wrist, forearm and finger strength, and improved his batting average.

Functional Isometric Contraction Training for Teams

IT was always our opinion that weight training should be a part of the daily training of athletic teams, but most coaches differed with us. They felt that there was not time, and the players furthermore did not have strength and energy enough to go through several hours of football training for instance, and still do their weight training.

I insisted to many coaches that it was the only way to be successful. Although it was helpful to build strength via weight training during the off season, it was not the best way. I argued with famous rowing coaches, famous track coaches, famous football coaches, that weight training along with their team training was necessary to gain maximum success. But I must admit that I did not get very far.

My close associate, Al Roy, vice president of the Bob Hoffman Foundation, agreed with me, and persuaded Istrouma high school of Baton Rouge to use heavy weights through the season and on the playing field. The team has been super successful, winning the state championship seven times out of ten, in spite of the fact that they are always losing their coaches. It seems that nearly everyone wants an Istrouma coach.

Quoting from my book *Better Athletes Through Weight Training*, which has become a classic in the field of training, "We had

known Alvin Roy for a long time. We met him in Paris in 1946, when he was a captain in the armed forces, in charge of athletics in his corps area. He was a great help to us, he served as trainer for our team, as we beat the Russians in their first trip from behind the Iron Curtain. Later he became a major and finally came back to Baton Rouge. Istrouma High School wrote to us and said that they had had a bad season and asked us if we could suggest a training system which would help them win some football games. We did better than that, we asked Al Roy to go around and take charge. We worked out a system of heavy weight training which served sensationally well." Quoting from the book, "Pass catching Billy Castilaw jumped from 168 to 200 pounds. Fullback Billy Cannon rose from 168 pounds to a solid 196, and Oscar Lofton increased his weight from 161 to 185. Tackle Luther Fortenberry gained from a flabby 195 to a driving muscular force of 205. This means he pared off many pounds of fat to replace it with hard, athletic, enduring muscles. Results among the remaining team members without a single exception were sensational.

"Their strength increased proportionately, Castilaw, Cannon and Lofton were barely able to dead lift 180 pounds the first day of training. When the football season started Castilaw was dead weight lifting 420. Cannon 410, and Lofton 325."

"Some thought that weight lifting would slow down the team. Just the opposite was found to be true. For the first time in history, Istrouma placed four players on the All State team. In addition, Billy Cannon (yes, the same Billy Cannon who was placed on every All American team as he played at L S U, he received the Heisman trophy, as the "Best Back of the Year") tied the state record in the hundred yard dash, which had stood for 14 years and was made by a much older and more experienced runner, 9.7 seconds. This high school athlete also ran the 220 in 21.1 and won the shot put. (In college Billy Cannon ran a hundred yards in 9.4 and his coach said that he believes with more specialization, that he could have ran the hundred in 9 seconds. He was the fastest big man, the world has ever seen, as he weighed 217 when he ran his famous hundred yards. Further proof that strength means speed)."



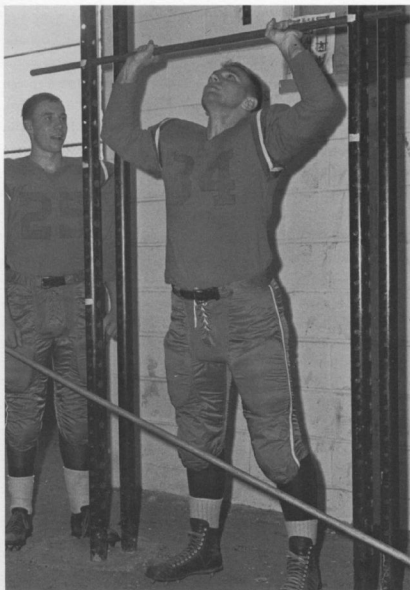
There was no time for Istrouma high school of Baton Rouge, La., to wait for a professionally made series of Super Power Racks. They did the best they could with these second hand telephone poles. The best they could do was to win the Louisiana State championship for the 8th time out of 11 tries. Since then they ordered three Hoffman F I C Super Power Racks.

"The team did well too, it won 13 straight games, averaged $33\frac{1}{2}$ points per game. Cannon averaged ten yards every time he carried the ball, scoring more than half of his team's points."

This well illustrates the value of using weights on the field, the day of the regular training. But most teams will not do it.

In the book *Better Athletes*, I tell how Dick Cleveland trained with weights for three months, gained 18 pounds, and after three weeks of swimming practice, broke the world's record in the one hundred yards and the one hundred meters. I tell how Al Wiggans, trained for three months, gained 28 pounds, lifting the heaviest kind of weights, and broke the world's record in the medley relay by $4\frac{1}{2}$ seconds, I tell how Jack Nelson, built a body which was huskier than any weight lifter or wrestler I have seen, he weighed 165, at his height of $5'4"$, our champion weight lifters at $5'4"$ usually weigh 148, our champions in the middleweight class, 165, are invariably $5'6"$, he was breaking records in this country. But at Melbourne our former weight trained swimmers took a bad licking. They did not train with weights there. It was the old story, train with weights during the off season, train for your sport only during the competitive season. The Australians trained with weights along with their swimming and they scored a great triumph, winning both relays, and finishing one, two, three, in some of the events. A small country beating the entire world.

In spite of so much of this evidence, coaches will not have their team players, or competitors, lift weights during the season, they say there is no time. Istrouma finds time. They don't lift weights on the day of competition as Frank Stranahan the golfer used to do with such great success, but they train during the week, and especially the day after their games. Saturday is the big weight training day at Istrouma. The players are banged up, have sore spots, strains and sprains, and the coaches find that weight training with it's increase in circulation, alleviates the battle wounds and starts the team off to a hard training result producing week. But regardless, there is no longer an excuse to forego strength training, there is time. While Functional Isometric Contraction training



Jim Rowe, fabulous all state and All America end of York, Pa. High School. He caught more passes and kicked more field goals than any other player in Pennsylvania High School history. He and his coaches think that Functional Isometric Contraction training played a most important part in his success. Last year he was unknown outside of local football circles.

should not entirely replace weight training with movement, it is a vast amount greater than not training for strength during the season. The Istrouma team, with super football and Istrouma enthusiast Alvin Roy, still do their weight training with movement on Sunday, but every training day of the week they practice Functional Isometric Contraction training without movement. At the present time, their equipment is crude, consisting of a number of discarded telephone poles imbedded in the ground. Holes are bored through these poles and the team practices their two presses, their two bends and their two pulls at the completion of their training.

Our York High School team, who received honorable mention in the *Better Athletes Through Weight Training* book, as they won the Pennsylvania championship with weight training playing a major part in their success, have installed a Hoffman Isometric-Isotonic Super Power Rack under the stands on their playing field. Every man on the team, about 45 of them at this near end of the season, perform their three two's on this machine. Next year they will have two more racks, but this year, they form a circle, and each man takes his turn. It takes a half hour for these men to complete there three twos, and the coaches think it is the best form of training they practice. Injuries are just about unknown. So often one or two of the opponents are spread out on the field, but never a York player. I am writing as fast as I can today, for our Isometric trained York team, has their hardest game coming up today and I want to see it. Strange as it may seem I passed up free tickets to the L.S.U. Mississippi game, at Baton Rouge to see this high school game. Of course lack of time was one reason too, for I spend one day going to Baton Rouge, one day there, one day coming back, while I spend part of an afternoon seeing York High play. And the time I save, gives me the opportunity to write this book. I will be anxiously waiting however to see how our Isometric Contraction trained players, the irristible force meeting the immovable object, fare on the playing fields today.

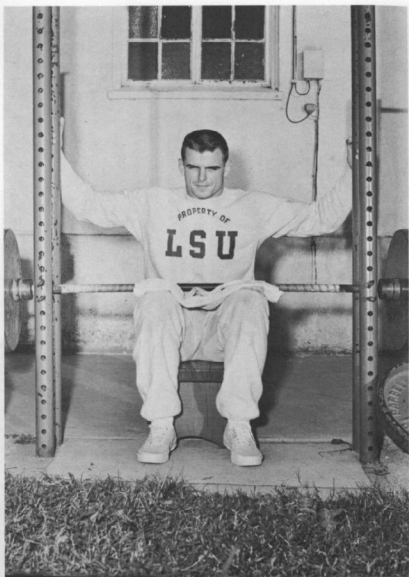
Stronger players are better players, and Functional Isometric Contraction is the simplest and the fastest way to build the super strength that means so much to a player.

It is rather simple to build and install, Functional Isometric Contraction training racks on the playing field. 4 x 4's, set in the ground in concrete will do, similar lumber set someplace between floor and ceiling will serve well, but it is a task to hold them down, as many of the players will be lifting over a thousand pounds in their top knee bend. It should not be necessary however to make these crude racks, high schools and colleges now are installed in fine buildings, with beautiful surroundings, the best of everything, so why should they use this crude equipment, when the best costs so little more? Functional Isometric Contraction, is offering for sale at reasonable prices well made, strong, easy to use, time savers, Super Power racks which will last a life time. This not only gives you the best, but it helps to build a Stronger and Healthier America, Better Athletes and Better Weight lifters.

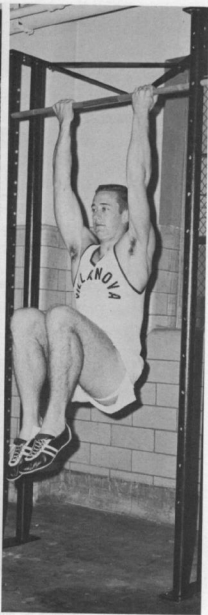
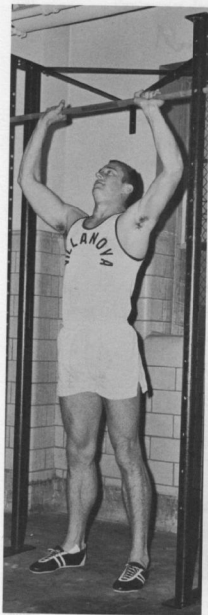
Although the Hoffman Isometric-Isotonic Super Power Rack, which permits the practice of 16 forms of training, is the superior machine, we have made a portable Isometric-Isotonic Super Power Rack which can be moved out upon the playing field, can be moved back into the gymnasium, can be used in country clubs, golf clubs, at playgrounds, swimming pools, even class rooms or offices. With it, all of the exercises can be performed, easily and quickly. And you have a piece of equipment which looks well in the finest surroundings. You should have the best.

As we stated, 45 players are using one Hoffman Isometric-Isotonic Super Power Rack at York High School, it would be better if they had three, but it is late in the season, and we are hard pressed to make the considerable volume of these racks which are being ordered, there are 552 holes to drill in steel to make the racks, which is time consuming.

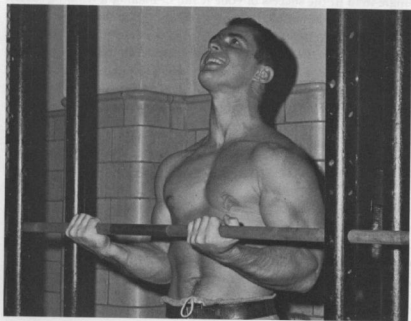
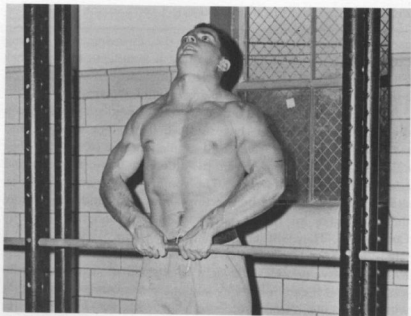
It is easy for 15 or 20 fellows to use one Super Power Rack. One would be enough for a basketball team, two would be enough for big league baseball teams or football teams. Two are best, for so often one super enthusiast who wishes to practice the special



All the L.S.U. Players including All American Roy "Mooney" Winston, trained with the Hoffman F I C Super Power Rack as well as with other Isometric Contraction Equipment they constructed. They were the first major university to use Functional Isometric Contraction and their record, only three losses in four years, well illustrates that it helped the team.



More Villa Nova athletes using the Super Power rack, only a few were training the day Bob Hasse took these pictures. Sorry we can not show you Billy Joe, Villa Nova's 60 foot shot putter, who is working hard on the rack.



exercises, the kicking, the passing, the throwing, the batting exercises, will tie up a machine so that it is difficult for the other fellows to get their turn. The price is inconsequential, when you consider, the other costs of producing a winning team.

The best time to train is when the day's practice is over. When the tired, bruised, players have finished their game training, and take their turn on the Isometric-Isotonic Rack, if so inclined they can cheat a lot. You can not tell the difference between a 50 pound effort and a 500 pound effort. The young players can make faces, show evident strain and be exerting about 50 pounds. So be sure that they give an honest effort to their Functional Isometric Contraction. They will lose much, if they cheat.

This is where the Functional Isometric Contraction Portable Rack can serve so well. It is right where you want it, there is no lost time, and it can be used by any team members at any time. It will mean so much to the success of your team, the most important single item in the success of your team, of making a winning season for you. With Functional Isometric Contraction training sweeping the country like wild fire, if your team is one of the first you will push the other fellows around, defeat them, if the other fellows team is training the Functional Isometric Contraction way, Building super strength with all its athletic improvements, and your team is not, you will get pushed around, be defeated. So either as a matter of erudition, of progress, or even as a matter of self defense, you should include Functional Isometric Contraction Training in your program.

Better Athletic Training *The Functional Isometric* *Contraction Way*

WE are preparing full sized, specialized courses in Functional Isometric training for basketball, Functional Isometric training for Football, Functional Isometric training for Track and Field. I will make a few suggestions concerning these events, but will cover the subject much more completely in the specialized course for these various sports.

Baseball. We have briefly mentioned that many big league stars have greatly improved their baseball playing ability through the practice of weight training. As similar results are obtained with Functional Isometric Contraction, it is reasonable to believe that this type of player will become a better player through Functional Isometric Contraction.

Becoming a better baseball player is a rather complicated subject if we consider training to throw stronger and more accurately. Batting and base running are important to the baseball player.

Quoting from my book, *Better Athletes Through Weight Training*, "Have you noticed the greater number of long ball hitters in recent years, the greater number of home run hitters in the majors. This year we had Roger Maris, hitting more Home runs than anyone in the past ever hit, true enough he played in more games, but it still was a feat of considerable magnitude.

Micky Mantle kept pace with him for most of the season. If you look into the physical details of these men, you will find that without exception they are men of unusual muscular development. Most of these men train with barbells during the off season. We would like to see them train with barbells right through the season, but we appreciate that this is difficult for them. They travel a lot, live in hotel rooms and training with weights would not be too easy for them. It will be easy enough when some team is advanced enough, progressive enough to have the barbells right in the stadium where they can be used before the usual fielding and batting practice. The day is coming when some understanding, well informed, progressive manager, will show the world something with a weight trained team, which will astonish all the teams in the league."

Unquote. The time is here now, not entirely with barbells, but with Functional Isometric Contraction. Our portable Functional Isometric-Isotonic Super Power Rack is ideal for this purpose. It can be put in place very easily, nothing to fasten to the floor, nothing to fasten to the wall. It permits the practice of Functional Isometric Contraction, with all of it's beneficial effects, with the hardest possible resistance, more than a thousand pounds if desired.

With this Functional Isometric Portable Rack, the members of the team, can build all desirable physical qualities in a few minutes a day, a minute or little more of actual training time.

The exercises of the Big 8, will build the physical qualities the baseball player requires.

In addition to the Exercises of the Big 8, practice the weight winding exercise to strengthen hands, wrists and forearms. Apply force to the Super Power rack with your bat in the desired functional positions and with your throwing arm in the desired functional position. Practice two or three additional exercises, that is additional to those of the Big 8. As the ball player continues with his Functional Isometric training, he will build a great deal more of the physical ability to run faster, throw harder and with more accuracy, have a better batting average.

Bask :ball. Basketball is a game which is played over the entire

world. The game originated in the United States, and the best basketball is still played here. If our best players, our best professional players were eligible for the Olympic games, players from other nations would really find what great players we have in this country. At the Olympic games, the United States team was at one time leading the second place Russian team by 44 to 2. That's what you call playing basketball.

Basketball is a game which requires a considerable assortment of physical abilities. A basketball player must be fast, he must be strong, he must be enduring, able to keep going, he must be a fighter, have a great competitive spirit, he must be a good team player, he must be able to rebound, but most important of all he must be a good basket shooter, for games are won by points and the man with the most points is the most valuable player.

Functional Isometric Contraction is rapidly spreading through the ranks of basketball players, with Bob Pettit of the St. Louis Hawks showing the way. In the special course in Basketball playing, the Functional Isometric Contraction Way, Bob Pettit will pose for the photos and offer considerable of the training advice.

As the Functional Isometric Contraction Big 8 develops all the qualities which are valuable to the basketball player that should be a regular part of training.

As we have stated before, these exercises build strength, and as strength builds control, the player will have better nerves, be a surer shooter, so that he will have a high average as a foul shooter and from the floor. As strength is also endurance, makes it possible for the player to keep going, the strength exercises of this famous course, will help the basketball player.

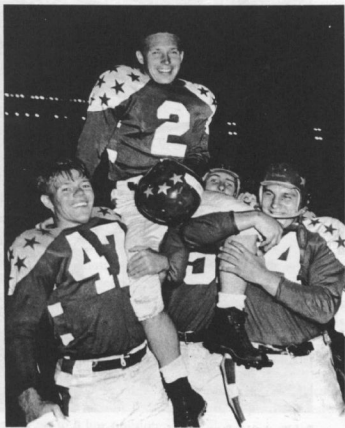
Good proof of the value of strength building exercises was given by the late Dr. C. F. McCloy. He devised a few exercises for the Iowa basketball team. Toe raise without heavy weight resistance, dumbbell exercises with up to 20 pound dumbbells, the bear walk and two or three others. With this simple program the average gain in the basketball jump was $3\frac{1}{2}$ inches, the center of the team and the captain, increased his jump six inches. In getting the ball, and in rebounding, this increased jumping ability was very

valuable. With the toe raise of the Functional Isometric Contraction course, and heavy resistance, an even better record in jumping should result. It is difficult to have a better record than the one which Iowa made history with, for they were the Big Ten Champions. How much better can a team do? The exercises of the Functional Isometric Contraction System, Big 8, are ideal in every way for the basketball player. Give these exercises an opportunity to show what they can do, and see how much better is your team's performance.

Football. Football is a real man's game and the weaklings have no business playing it. When the teams and players who depend on natural ability and football itself to build their bodies and keep them in condition, come into contact with a team which has built it's speed and power through weight training, or the Functional Isometric Contraction Way, the team that has not trained especially for strength, comes off badly, is second best. Weight training and Functional Isometric Contraction helps men gain in body-weight, it packs solid muscle on their bodies which makes them stronger, faster, tougher, more enduring, builds better muscular coordination, more superior physical qualities which result in better football playing.

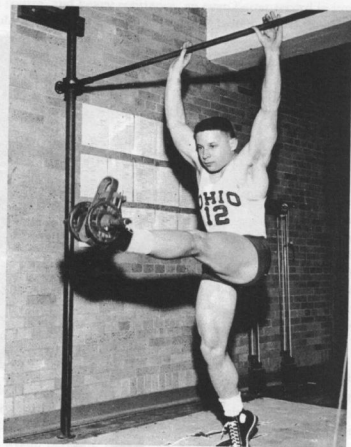
The greatest problem for most high school coaches is the fact that they can not find players who have size and strength. If coaches would not only place their teams on a strength program in the spring and summer, but make provision to continue strength building exercises through the season, how much better their team would perform. An average gain of ten pounds a man would be quite ordinary, as we have mentioned previously in this volume, Istrouma High School of Baton Rouge, under the careful supervision in their weight training endeavors, by Alvin Roy, gained 20 pounds average. This alone could easily be the difference between winning and losing, between having a successful season and a poor season.

So many teams from now on, will be training with the Functional Isometric Contraction method, that the teams who don't



Little Tad Weeds enthusiastic College All Star team mates, carry him off Soldier Field in triumph after his accurate kicking had beaten the supposedly unbeatable Cleveland Browns in the 1955 All Star game.

valuable. With the aid of the Functional Instruction Center,



Tad Weed, Ohio States magnificent goal kicker, demonstrates one of the special York Iron boot exercises which built his kicking power and amazing accuracy. The heaviest possible deep knee bends were always a part of his training program, and he was a member of the Intercollegiate weight lifting champion team, which won the national weight lifting title.

between winning and losing, between having a successful season and a poor season.

So many teams from now on, will be training with the Functional Instruction method, that the teams who don't

use this system, will have to learn the hard way, from their opponents, they will be defeated.

If the average gain for your team was ten pounds, instead of the possible 20, it would be a very rich reward. If we wish to consider only the profit angle from a winning team, with its increased attendance and increased revenue, it would pay the cost of the equipment, many, many times over. People like a winner, they go to see a winner, they read about a loser in the newspapers and that does not help the school or college very much, whose team is constantly on the losing side.

In writing about Bill Cannon, whom many believe to be the fastest, the strongest, the best back of all time, we brought out the fact that training with the heaviest possible resistance builds super strength, super speed and all desired physical qualities.

The Isometric Contraction Big 8, is the course to practice. Tad Weed, who became the greatest kicker in history, weighed only 123 pounds when he went to Ohio State. Yet by weight training, he became the second best lifter in the 148 pound class, in Inter-collegiate ranks, but most important to the football coach, he kicked 10,000 goals after touchdown without missing one, the last one blind folded. He did not miss a goal after touchdown during his college career and he won a number of games with field goals.

The exercises he did to develop this superior kicking ability, he did by holding his hand to a bar, similar to the bar of the Hoffman Isometric-Isotonic Super Power Rack and kicking with resistance. The York Iron boot, offered the resistance first of all, but it could be done almost equally well by kicking against, or putting pressure against the bar set in a low position.

Football players, particularly line men, need all the leg power they can get. This is best obtained with the knee bends practiced on the Functional Isometric Contraction Rack. Throwing a football will be benefited by the exercise in which the arms kept straight, a considerable force is applied to the upper bar. This develops the throwing muscles, so that the forward passer can pass far and with great accuracy.

Functional Isometric Contraction training will help in every department of football. One of the best ways it will help, is preventing injuries. Injuries to the knees and the ham string muscles are most frequent. The general strength building program, notably the knee bends, strengthens the knees so that they can withstand a great shock. Sitting on a bench and straightening the legs against the resistance of the bar of the Functional Isometric Contraction Rack, will prevent injuries. Developing the ham string muscles can be done by practicing Isometric leg curls as the trainee lies face down upon a low bench. Training the Functional Isometric Way, will be very worth while. There should be a number of Functional Isometric Contraction Racks on every football field.

Training of Individual Athletes The Functional Isometric Contraction Way

THERE is little opportunity for team players to train during the season, in any way except the Functional Isometric Contraction Way, which of course means without weight resistance, working against static resistance. But the man who trains by himself, or during the season when he is not playing his preferred game, can do a lot of specialized training.

It has been proven that maximum strength can be built with a few simple maximum contraction exercises. Louie Riecke well proved this point with his famous eight exercises, the two presses, the two pulls, the two bends, plus the raise on toes and the shoulder shrug. But everyone can not do as well as Louie Riecke with this static resistance without weight. Everyone does not have his explosive ability to put forth a maximum effort, so everyone will not be able to do as well.

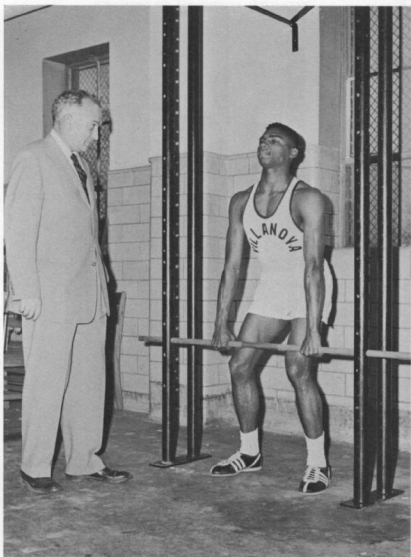
For the man who has the time, the superior training method is to practice Isometric Contraction with Weights, or Muscle Contraction with Limited movement. Although the Hoffman Isometric-Isotonic Super Power Rack is designed to permit Functional Isometric Contraction Training, it also permits 15 other methods of training, 16 in all. Many of these methods are important in the training of the ambitious athlete.

With Functional Isometric Contraction Training, against static

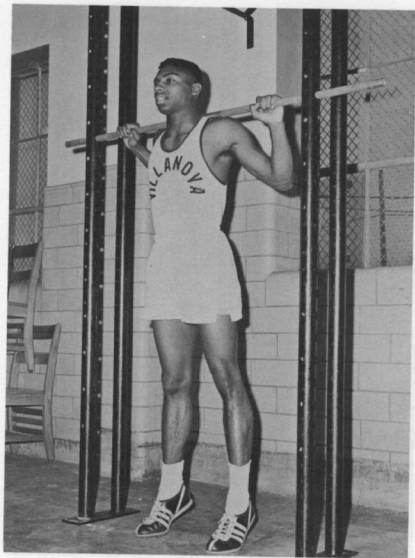
resistance, there is no way to actually determine just what resistance you are working against. It is possible for the beginner to do too much and hurt himself, it is possible too to think that you are putting forth a maximum effort, which you may not be doing, as there is no way to determine just how much resistance you are using. These are some of the reasons for practicing Isometric Contraction training with weights. With this system, you can use the Medium, Light and Heavy System, and accurately measure the weight resistance you are working against. The heavy system of course means to put forth a maximum effort, lift all the weight resistance you can, exert full force. In making a medium effort it is usually 80 or 90 per cent of limit, usually 80% or 4/5ths. In the so called light effort, you use 60 or 70 per cent of limit, usually 3/5ths.

You keep a record of your training and you know just what you are doing. You make your progress, make your gains, by this progressive training. It is nature's way to meet demands made upon the body, and the constant making of demands and nature's meeting of those demands builds the strength, muscle and all around physical ability which is the object of your training. For this and other reasons which we will enumerate, in our opinion where the Super Power Rack can be fastened securely to the wall and to the floor, the Isometric-Isotonic Super Power Rack is the training equipment which should be installed. As we have illustrated earlier in this book, it can be used in a wide variety of ways with great benefit to the ambitious trainee.

When you have little time, you can train with the bar thrust through the big holes in the front standard. Thus you can do your One Minute a Day—The Functional Isometric Contraction Way, when you want to. And you can put in an hour or two on other exercises, using the chinning bar, the parallel bar pressing devices, the heavy wrist, hand and forearm developer, the press rack, the leg press exercises, the straddle lift, and many other power exercises. And you have the means to not only build great strength over your entire body inside and out, but you can perform the exercises which will mean improvement in your sport. Some of



"Jumbo" Jim Elliott, the greatest track and field coach in the nation today. His team is a perennial winner of the N C 4 A championships. Here he is shown with star pupil, world's fastest human "Frank Budd, who holds the world's outdoor 100 yard record at 9.2 and also the world's indoor 60 yard record at 6 seconds. With his Functional Isometric Contraction training, we can look for a new world's record soon. This exercise is essential for all athletes as it builds the lower back, the seat of the bodies virility, and a lot of other muscles too. A strong back means faster running, better jumping.



Frank Budd practicing another exercise which is so essential for all athletes. The raise on toes against heavy resistance. This exercise builds power in the feet, the ankles, the calves. Results in faster running, higher jumping. Like all other athletes of the great Villa Nova track team, Frank Budd, trains regularly with the Hoffman Isometric-Isotonic Super Power Rack. Here Frank is using the empty bar thrust through the large holes of the front support of the Super Power Rack. This is the method used in the One Minute a Day System of Functional Isometric Contraction. Coach Elliott is collaborating with Bob Hoffman in preparing the Functional Isometric Contraction Course for track and field athletes.

these we will suggest to you, others you and your coach will devise.

It takes a little longer for Functional Isometric Contraction training with weights, but not too much longer. The main retarding factor in Functional Isometric Contraction training with weights, is the fact that there is so much variation in strength of the various individuals and there is considerable changing of weights, two men can train together well, for one can make changes while the other rests between exercises, but more than this causes handicapping delays.

A different weight is required in each exercise, considerable in the top press, much less in the middle press, more in the low press, but not as much as in the top press, a great deal in the raise on toes, even more on the 1/8th bend, not so much on the top pull, a very considerable amount on the shoulder shrug, the various pulls and the deep knee bend. But actually, the only exercises which require a fairly moderate weight, are the middle press and the top pull. On the days you do not practice these movements there is not so much changing. Placing your big plates on two chairs as I do, makes it possible for you to train rapidly, with very little lost time.

When you are working against static resistance, you may feel that you are continuing a maximum effort. You are doing the curl for instance, you try to continue a maximum effort, but when you are doing this exercise with a substantial weight, when you have reached 8 or 9 seconds, it starts to drop and you can not stop it, you use a little less the next time.

Regardless of your sport, whether it is football, track and field, swimming or long distance running, you will be wise to practice the basic course. The three 2's, plus the shoulder shrug and the raise on toes is best, but if you intend to practice a considerable number of special exercises to help you in the practice of and the competition in your sport, you should have less strength building exercises. In this case it may be wise for you to practice one press, one pull, one bend, raise on toes and the shoulder shrug. After you have built strength, or performed exercises to maintain your strength, then, and only then, proceed with exercises which are designed to improve your ability at your favorite sport.

We have been discussing Isometric Contraction with Weights, there the weight of known and recorded poundage, is pressed or pulled against a pin above the pin on which the weight rests in the starting position.

There should be some training with weights in limited movements, muscle contraction with limited movement, and there should be some training with muscle contraction with unlimited movement. This is very similar to regular weight training, except with the rack you can place the weight where you want it to begin, at the shoulders, or at the proper height for a deep knee bend, raise on toes, the proper height for the straddle lift, the leg press, the bench press and others.

Improving Track and Field Performance The Functional Isometric Contraction Way

WHEN I wrote the book, *Weight Training for Athletes*, for the Ronald Press, the reviewing editor objected to the fact that I had devoted 23½ pages to track and field competition, while I devoted only 4½ pages to baseball, 4 to basketball, and 4½ to football. I told them that track and field is 24 events while the games we mentioned are just one game. We would have to tell people how to catch, how to slide, how to run, the bases, how to bunt, how to hit home runs, how to play first base, and how to play the outfield, to use up 23½ pages. But track and field is pretty complicated, with so many events, there is a lot of special training.

In all the history of modern sprinting, there have only been a meagre handful of runners who won international events, who were not much better muscled than the average. Bones Dillard, the hurdler who won the 100 in London in 1948, was one of these. Mel Patton, who won the 200 meter Olympic championship in 1948 was another, his record has only been surpassed recently. Herb McKinley, who missed the championship in 1952, by the merest whisker, was tall and slender, and Eastman of the 1930's was far from a physical giant but there have been a lot of sprinters who came pretty close to being giants of strength. Truck Miller of Harvard, former national champion was one of these, he weighed

210 pounds and was as muscular as a champion weight lifter. Billy Cannon with his 9.4 for the hundred weighed 217 pounds, the sprinters who represented the United States at Rome were a pretty husky bunch. Dave Simes who had trained with weights for years, Ray Norton who was the national champion and thought to be the fastest runner of all time, and one of the strongest, Frank Budd, who was little known when he made the Olympic team, but since has broken the world's record in the 100 yard dash, is a powerful runner. Charlie Paddock, Bobby Morrow the double winner in 1956, were strong men and strong runners.

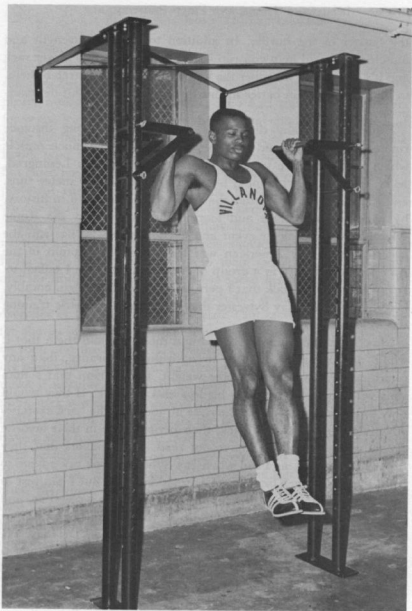
The evidence surely proves that stronger runners are better runners and all ambitious sprinters should do what they can to build their strength which is also their speed. A powerful start, and the ability to keep going at top speed marks the champion in the short distances, the 100, 200 and 400 meter dashes. All of the exercises of the Functional Isometric Contraction Big 8 are ideal for the sprinter. The leg power which is developed by the raise on toes, and the knee bends, make it possible for a man to get off his marks like a catapult, the strong legs, strong feet, and ankles make it possible for him to go down the track like a rocket, the pulls, give a man strength and vitality in his back. You will only realize what an important part the back plays in sprinting, if you have a sore back sometime. See how it handicaps you. The strong arms which are developed by the presses and the pulls help the runner to run with his arms as well as his legs. Strong arms are often the difference between winning and losing, championships won and championships lost. Way back in 1936, on the way to Berlin, when the late Lawson Robertson was the Olympic track and field coach for the fifth time, I convinced him that runners need strong arms and shoulders. That these strong arms and shoulders not only help in running, but help prevent fatigue, help prevent the tiring oxygen debt, because they are so strong, so well trained and so efficient that they help dissipate or distribute the deposits of fatigue acids, lactic acid. Make Functional Isometric training a part of your regular training, it will help you.

The hurdles, 100, 200 and 400, are sprints, plus stepping over

the barrier of the hurdle. In addition to building strength and muscle which will help you run faster, you can use the power rack and it's accessories to limber the legs and the back, to stretch them, so that they perform better in this thrilling, exciting, but demanding event.

I have had many discussions with American long distance runners. They are afraid that they will develop too much muscle which they will have to carry around with them. In Leningrad, Max Truex U. S. champion in the 5,000 and 10,000 meter runs, and the man who did better than any other American in history, by winning sixth place and scoring for America in the Rome Olympics, 10,000 meter event and Clyde Beaty who has run the fastest mile of any American was the other, the captain of the American team were in a group of Americans athletes I talked to. It was in this initial talk that I persuaded some of the men, notably, Gary Gubner and Jay Sylvester that Functional Isometric training would help them.

Max Truex said that it might build muscle. I told them that it would produce a lot more in strength and endurance, than any retarding effect of gaining some weight. I told them that a man runs with his feet, his ankles his legs and his back. If they would only practice two exercises, the raise on toes and the back exercises which develops the lower back, their performance in their favorite events would improve. I have not read in the papers that they broke any records, as I did when Jay Sylvester took my advice to train the Functional Isometric Contraction Way. But I am just as sure as I am that I am sitting here pounding this typewriter, and that I am breathing, that it would help middle and long distance runners. Mal Whitefield, Charlie Jenkins and Ron Delaney, the latter two from Villa Nova, but all Olympic champions, got a good share of their running ability, 400 meters for Jenkins, 800 meters for Whitefield, and 1500 meters for Delaney, from the practice of weight training, and what weight training will do for an athlete, the Functional Isometric Contraction system will do equally well and with even greater speed. I assure you that it will help you. As I said in Moscow and Leningrad, Let's not argue



The parallel bar pressing attachments also serve well for chinning, pressing, leg raising and Frog Kicking. Rolando Cruz, who tied for first in the national AAU indoor pole vault championship and Frank Budd are the performers in these pictures.

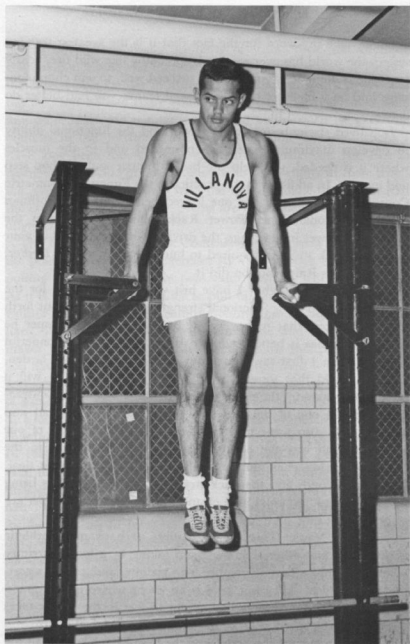


Photo by the author. Villanova University, Philadelphia, Pa.

about it, take my word for the fact that it is the greatest training system the world has ever seen, it is spreading like wild fire, nearly everyone is doing it, if you want to succeed well, to win championships and be a member of international teams, you had better do it too.

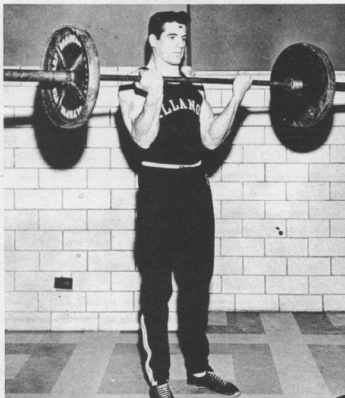
Improved strength, improved speed, and the functional ability to develop maximum power when needed and in the muscles where it is needed, will help the broad jumper and the hop step and jumper. In addition to the practice of the Functional Isometric Contraction Big 8, practice one legged bends with the Hoffman Isometric-Isotonic Super Power Rack. This will give you the spring and power in your legs, the driving power you need in your arms, the back strength required to hurl the body a little farther, over 27 feet as Ralph Boston did it.

The High Jump. What I have just written holds good for the high jumper too. It is functional strength, the ability to put forth a greater effort, that makes Valeri Brumel the great jumper he is. John Thomas is better endowed by nature, he is a wonderful jumper, when I first saw him jump at Madison Square Garden, 7'-1½", I said that some day he would jump 7'-6". He will if he seriously takes up the practice of Functional Isometric Contraction. He was one of the athletes I talked to in Leningrad and Moscow. He also went to Israel and Dave Mayor, one of our associates who was the coach of the weightlifting team to the Macabee world's championships, also talked to him a great deal. The arm strength and the back strength, we mentioned as being so beneficial to the broad jumper and the hop step and jumper are so necessary to the high jumper too.

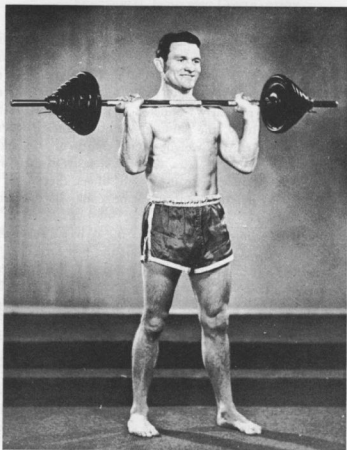
The Pole Vault. This event requires perhaps more athletic ability than any other. I know I am taking in a lot of territory when I say this, all events require long training and a great assortment of physical skills, but here is an event where a 200 pound man propels himself over a bar nearly 16 feet in the air. It takes a lot of running speed, a lot of spring, and a great deal of arm and body strength to hurl the body over the bar. I have known all the pole vaulters of international fame, just about all of them are

weight lifters. Don Bragg, formerly of Villa Nova, the Olympic champion at Rome and the world record holder, is truly a Tarzan, the biggest pole vaulter in history, he had more weight to lift over the bar, but he had more strength to lift his big body over than any other man. He regularly competed in the open weightlifting contests in our territory, the Middle Atlantic District, where I have long been the A.A.U. weight lifting chairman. He, like so many other world famous athletes, who use weights in their training, are so well acquainted with the weight lifters, that about half the crowd at some Olympic events are Americans who compete in other athletic events.

The Functional Isometric Contraction Big 8, will serve well for the pole vaulter. Special exercises such as the two arm curl, and pulling the body up in the pole vault position will help greatly, As it is easy for a pole vaulter to pull up bodyweight, the aspiring vaulter must have some means of holding himself down as he pulls hard. A belt with weights will supply the added weight which makes possible developing great strength in this position. After you have pulled the body up, you must push hard with your arms, and this strength comes from the various presses which are a part of Functional Isometric Contraction Training. You will have to do a lot of vaulting, and you need a lot of endurance, at the national championships, Olympic year, the pole vault went on for 12 hours. In 1948, two of our first weight trained vaulters, paid me a first visit, to thank me for showing them the weight lifting way, so that they could make the Olympic team. Bob Richards said that he had had an apendectomy in June, and that he jumped 14'-6" for the first time in July. He did not win in 1948, it was a ghastly day, with the water more than a foot deep under the vaulting standards, but he did win the Olympic title in 1952 and 1956. The other man I am talking about is Boo Morkum, now the head track and field coach at the University of Pennsylvania. In 1948 he was the only man in history, who won the triple jump in one day, in N C 4 A competition. High jump, broad jump and pole vault. Weight training with the practice of his favorite events gave him a lot of endurance, Functional Isometric Contraction can be done



Olympic champion Don Bragg, formerly of Villa Nova. A regular competitor in open weight lifting contests, he is not only the biggest pole vaulter but the strongest. Too bad that the fibre glass pole would not help him, for he was over 16 feet several times with a standard pole, knocked off the cross bar coming down.



Two times Olympic champion Bob Richards, a Bob Hoffman boy grown up. These pictures taken in the York Barbell gym. Training with weights only, in the depth of winter, Bob Richards went over to Madison Square Garden and jumped 15'5" for the first time. Pretty high before the days of the more flexible glass poles.

so quickly, and it too will provide a lot of endurance. All in all, Functional Isometric Contraction, will improve any man at his chosen sport. The records will go up and up, and when a man breaks the 16 foot barrier, it will be rebroken just as regularly as the 4 minute mile record was broken. Be one of these 16 foot pole vaulters, train the Functional Isometric Contraction way. Build functional strength, speed and explosive power.

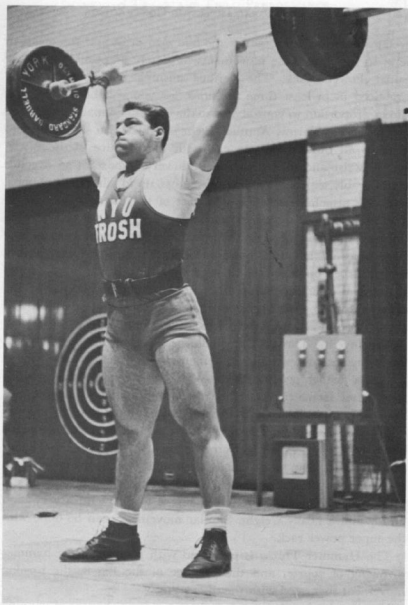
The Decathlon is a gruelling event which takes much of two days of competition. The stars in this event have always been mightily muscled men, invariably men who trained with barbells. While practicing for the ten events of the Decathlon there is little time left for weight training, but the great Decathlon stars have known that weight training is just as necessary to their success as training for any one of the ten events.

Had Functional Isometric Contraction been known at the time that Rafer Johnson, Milt Campbell and Bob Mathias, Olympic champions of the last three Olympics, set their records, their training schedules would have been easier. They could have saved time and energy, which could have been applied to the practice of the ten events.

Most of the events of the Decathlon, have been individually discussed in previous pages, so make use of the basic training, the Functional Isometric Contraction Big 8, and the suggested specialized exercises which lead to stardom in the various events.

The shot put is an event which requires all the power that can be developed. At the Rome Olympics the shot putters spent more time training with and pulling with the weight lifters than they did with the track and field team, they spent more time training for weight lifting than they did for shot putting. Practice your basic training with maximum resistance.

Specialized exercises are pressing in the bench press position, pressing in the inclined bench positions, on the bench practice the movement which develops the little known muscle, the Serratus Anterior, which pushes the shoulder forward. This exercise is practiced with the arms straight or nearly so and the effort applied primarily pushing forward or upward with the shoulders. With



New York University, was the first major University to install a Hoffman Isometric-Isotonic Super Power Rack. It was used a great deal by Gary Gubner, who while still 18 years of age, broke the world's record in the indoor shot put, 64' 11 3/4" is his record. He will push this record up to over 70 feet.

weights, shot putters practice the one arm press and the one arm jerk, so simulate these movements as closely as possible with the Super Power Rack. The various pushing movements can be practiced in at least three positions, for you will be successful in direct proportion to your ability to develop functional strength.

The Discus Throw. Another event in which you should seek to develop all the muscle you can with the practice of the Big 8. Hand, wrist and forearm strength is very important so practice considerably with the winding of weights, up to a hundred pounds, with the attachment which is a part of the Super Power Rack. You need to develop your power in the turn, and this can be done resisting the twist of your body with the bar thrust through the large holes of the super power rack. Many athletes place a very heavy barbell upon the shoulders and twist from side to side. Build Functional strength, through practicing the movements of the discus throw in several positions, start, intermediate position and near the position where the discus leaves the hand.

The Javeline Throw. You should practice the Big 8. Pull overs, lateral raises and similar movements will develop power for a better, a farther javeline throw. With your power rack, practice Functional Isometrically in the three positions of your throw in the javeline toss. When training in Russia I noted that the favorite exercise of the javeline throwers, both men and women, is to lay down with the feet away from the rack, in this case the Super Power Rack, lean back far enough that you are exerting the abdominal muscles as well as the pull over or throwing muscles of the arm. Another of their movements is to pull with a very high pulley and a heavy weight. Similar movements can be done with the super power rack.

The Hammer Throw is practiced with a lot of heavy hammer throwing of course, and the practice of the Big 8, the turning movement suggested with the discus throw.

You should do all you can to improve your chances of winning in your favorite event, these exercises without movement have their merit, but it is necessary to practice exercises of movement too, for all of these events require a lot of speed, explosive power

and plenty of movement. I suggest that you obtain for yourself a copy of *Better Athletes Through Weight Training* and the book *Weight Training For Athletes* issued by the Ronald press.

Muscle Contraction with Measured Movement

WE have described methods of training with pure Functional Isometric Contraction, Functional Isometric Contraction with Weights, Muscular Contraction with Limited Movement and Muscular Contraction with Unlimited movement. The object of the discussion in this chapter is to introduce you to a new-old system of training which will be called as this chapter is titled, Muscle Contraction with Measured Movement. M C - M M will become one of the best known, the most famous, the most result producing systems of training which has ever been offered.

We call this system a New-Old system. New because of the timing or measuring effect, 10 seconds of pressing, curling or pulling the weight, 10 seconds of returning it to the starting position, 10 seconds of rest, at least 6 times 30 seconds in all, for each exercise. It is old, because since we first wrote the Famous York Barbell and Dumbbell courses in 1927, we have been suggesting that the exercises be done slowly and correctly, lowering the weight slowly too. These courses have laid the foundation for the strong, athletic bodies of every weight lifting champion, every Mr. America of whom you have read. Quoting from the York courses as they were first written in 1927. On page 13, the statement, "Be sure that this exercise is done slowly. Lower the bell slowly, to the original

position, Repeat the movement six times," and later in the same paragraph, "Lower the weight slowly, not letting it drop, and the muscles will develop nearly as fast with the lowering motion as in the raising motion." And remember that although the York courses were written in 1927, they are still the best. Men still have the same number of arms and legs, the same biceps, triceps, trapezius, gastrocnemius, and the same basic exercises still develop the same muscles. The basic York courses which all the greats in the strength world have used, are still the best.

On page 5 of York course No. 1. "In that case, you will concentrate on performing the exercises slowly, steadily and correctly. Faster gains will be made in this manner . . ." On page 10, "the proper position and the proper movement is very important. Never complete a movement too rapidly. Make it as it should be, a muscular effort. Don't use the body to assist you in arm exercises, maintain the proper position throughout the exercise." "Hold the legs straight and push the bell slowly to overhead. Lower it slowly to the position at chest," on page after page through the pages of the York courses I say, "Perform this exercise rather slowly, breathing very deeply," on page 16, for instruction in raising on toes, "Raise on the toes slowly as high as possible, Lower slowly to the original position." And in describing the shoulder shrug, "keep arms straight, slowly raise the shoulders as high as possible trying to touch the ears with them. Lower slowly and repeat ten times, and on page 17, in describing the one arm press, "lower the arm slowly, keeping the arm well to the rear, and again, in the bent over rowing motion, "pull the weight with comparative slowness so that the weight resistance can be felt every inch of the way. Use the same procedure in lowering the weight to the starting position, slowly so that the weight can be felt every inch of the way. With this system the slow lowering of the weight will be of nearly equal value to raising the weight, in strength and muscle building."

And there gentlemen, in a nut shell, is the principle reason for the great success of Bob Hoffman as a coach and as a physical training teacher. More than any other one thing the slow, muscle

building movements as recommended in the four famous York courses written by Bob Hoffman, are the primary reason why York men have won so many honors, why they build greater strength and better physiques than the men who follow the "cheating systems." Let us repeat again, the advice and instruction which has appeared so often in the York courses, "so that the exercise is performed with comparative slowness, so that the weight can be felt every inch of the way as the bell is raised and lowered; with this method nearly as favorable results in building strength and muscle will be obtained with the comparatively slow lowering of the weight."

In the "Cheating System" advocated by some misguided instructors, a good arm exercise, for instance the curl, is turned into a poor back and leg exercise as the barbell is heaved, instead of curled to the top position of the curl, it is almost dropped to the starting position, and with another heave is placed at the top position of the usual curl. In the press, legs, back and shoulders are used to supplement the action of the usual slow press. Once again we have an example of a poor leg exercise, a dropping of the shoulders and a raising to help put more weight overhead. It is not a correct press and not a good exercise either. This same type of cheating has been used with all exercises. For a great many years, in our gym we have had one of the original advocates of the cheating system. At times I have said, Jake, "why don't you do some exercises correctly? Then I can't handle as much weight, he said. "What difference does that make"? I asked, you are training to build strength and muscle, you will have more strength and more muscle if you train correctly. How much do you think I should use," he asked? "About 120 pounds in the press behind neck", the exercise he was practicing, was my reply. "Oh no he said, I never use less than 170 pounds, using 120 would be a step backward." "But you don't do a press behind neck I said, you perform a jerk behind neck." He is still jerking and still heaving, and although he has some muscles from his hard training for the last 25 years, he has not received the maximum of benefit he would have obtained by performing the exercises correctly.

Weight lifters and other athletes must develop strength every inch of the way. It is interesting to note that without exception all weight lifting champions are York men, those who followed the proven York or Bob Hoffman training principles. All Mr. Americas to date laid the foundation for their truly great physiques with the Four famous York courses. This method of training builds the greatest strength, the most muscle, the greatest all around athletic ability.

As we have been reiterating, when cheating is done, other muscles are involved, usually the big muscles of the legs and back, and although more weight is handled, the muscle which the exercise is designed to develop, does not obtain a maximum of benefit. Rather the strength developing effect is spread over many muscles.

Similarly when the exercise is performed as most trainees perform it, rather a fast movement, little benefit is gained after the start of the effort, When weights are lifted with the usual rapidity, about 80% of the value of the lift or the exercise is gained during the first few inches of the lift, which of course is the time during which the inertia of the barbell is overcome in any movement.

With this fast start, the remainder of the movement is little more than a follow through, the weight becomes in effect, a ballistic missile, going on it's way after the initial, explosive effort. You can realize the truth of this statement if you perform a few curls or presses with a moderate weight.

The object of the slow movements of the York courses, as advocated for so many years, was to feel the weight every inch of the way, strengthen the muscles every inch of the way, as you will see in the next chapter, it works.

A Successful Coach

JIM Counsilman is one of the greatest swimming coaches in the world. In addition he is what has often been called a Bob Hoffman boy grown up. A long time follower of *Strength & Health* magazine, the York courses and the Bob Hoffman system of weight training.

This combination, of the old and the new, of proper swimming training, almost unbelievably hard training, with the most result producing dry land exercises, has brought sensational results for Jim Counsilman and his charges.

The most recent successful result of his training system was the breaking of five world's records in a single meet. We have so often written that making a new world record is the acme of success in athletics, the greatest feat in the realm of sport, for when you are world champion, you have proven to be the best man there that day in your particular event, but when you establish a world record, you have proven to be the best man of all time in that athletic event. And Jim Counsilman's swimmers not only broke one record, they broke five records. They set a new world's record in the relay, breaking the record of the U. S. Olympic team established at Rome, A real sensation, when one swimming coach can produce four men at one college or university who establish a world record.

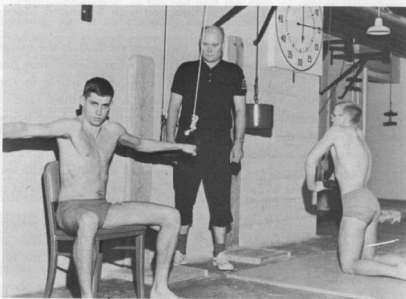
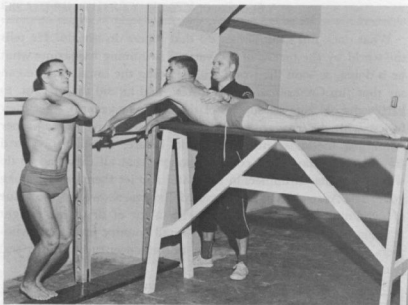
What does Jim Counsilman do that others do not do? He tells the world by the means of the various swimming magazines what he is doing, so soon the world will be doing the same. But we can say that Jim Counsilman did it fustest, and he did the mostest, to garble the old rule for success of the civil war general, "get their fustest with the mostest men" Jim combined hard work, proper swimming methods with as we said before, unbelievably hard training. The day when coaches thought that all they had to do was to put their swimmers in the water and let them swim, is long gone. The Australian swimmers at Melbourne showed us the value of swimming three times a day with a lot of dry land, weight training exercises in between. This small country produced swimmers which placed one, two, three in some events, both men and women, and they won all of the relays.

But Jim Counsilman's success is the result of going still farther. Lots of swimming, a great amount of Isometric Contraction training, and his method of Intermediary contraction, which we call, M C w M M. Muscle Countraction with Measured Movement.

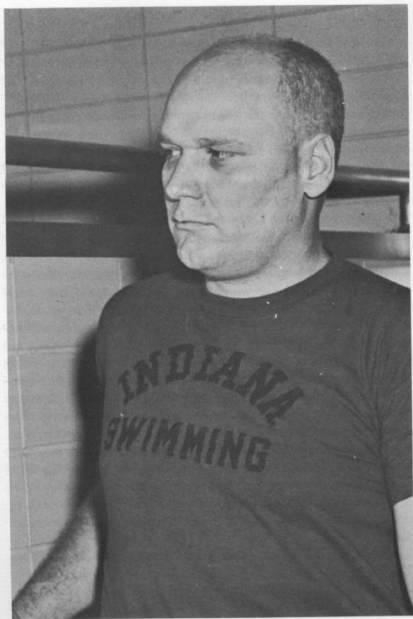
He believes and we believe, that this latter method, is the major reason for his exceptional success. Here is what Counsilman has to say about it. Quoting from Jim Counsilman's article in the *Swimming World*. "Intermediary contraction is the third type of contraction, Isometric and weight training with movement being the other two. In the average weight training exercise with normal movement, such as lifting a weight, we believe that the greatest percentage of value of the exercise in building strength is achieved during the first few inches of the lift (i. e. as soon as the inertia of the barbell is overcome).

"I have explained to our swimmers that if they lift the weight rapidly, perhaps as much as 80% of the value of the exercise in building strength is achieved during the first few inches of the lift, as the inertia of the barbell is overcome.

"If the weight is thrown up vigorously, it develops inertia in the upward direction and the barbell in effect becomes a missile and carries itself upward.



Dry land exercises by swimmers of Indiana U, being supervised by Dr. Jim Counsilman.



Dr. Jim Counsilman, world famous coach of Indiana University. His Isometric Contraction swimmers, broke five world's records in one day. He has U.S. and Olympic champions on his squad.

"For this reason, many of our exercises are done at a very slow rate of speed. We consider this slow, steady movement in which we try not to impart much inertia to the weight or resistance, as a modified form of contraction, intermediary to complete Isometric contraction, and the usual weight training movements.

"A given Isometric contraction permits contraction only at one angle. A slow sustained intermediary contraction against resistance permits what would be comparable to a series of Isometric contractions at different angles. In our dry land exercise program for swimmers, we use all three types of exercise."

"It is a commonly accepted fact that maximum strength is built by high resistance, low repetition exercises or contractions (i. e. performing supine pull overs—5 to 30 repetitions with a heavy weight, 35 to 125 pounds). To build strength we, therefore perform all three types of exercises with heavy weights. To build endurance the three types of exercises are performed with moderate resistance and high repetitions, such as 300 supine pull overs with moderate weight such as 20 pounds."

"The strength of a muscle in an individual is directly related to the cross sectional area of the muscle—in other words, to its size. As strength is increased, size is increased and vice versa. Endurance in an individual is related to other factors; cardiac output, quality of the blood, number of capillaries in the muscles, etc. It is as impossible to build endurance by doing heavy weight-low repetition exercises as it is impossible to build strength by doing high repetition-low resistance exercises. This implies that an all around developmental exercise program should have a balance of the three main types of exercise so that both strength and endurance are developed."

"Physiologists have classified muscle tension in three categories. Tension during shortening, 2. Isometric and 3. tension during lengthening. The lowering of the weight slowly and at a steady or measured rate brings No. 3 type of tension into play. The contribution of this type of tension to building strength may be as great as that of the other two.

"Intermediary contraction (we call it M C w M M Muscular

Contraction with Measured Movement) is the same as exercises with movement except that the weight is lifted slowly on a 10 second count and is then lowered in a 10 second count. Ten seconds rest between exercises is taken and the exercise is repeated 5 to 15 times."

"In all of our drills with weights we use all three types of contraction. We are still experimenting with varying programs of time with each type of drill, but so far, we are spending approximately one third of our total time on each."

"We have also tried varying lengths of time of contraction on the Isometric drills. At present, we are using 6 second contractions with only 6 seconds rest between contractions and repetitions of 15 to 30. We are using 10 second Isometric contractions with only 5 seconds rest between contractions. The number of repetitions varies between 5 and 20."

"All of our Intermediary contractions have been accomplished during a five to ten second period, in which the weight is lifted in the same amount of time it is let down, with a corresponding period of rest. Repetitions vary from 5 to 15."

"We attempt to concentrate on what anatomists call the prime mover muscles. We feel, if they are exercised properly, the stabilizer and neutralizer muscles will also be exercised in a proper manner."

Summary—Isometric drills can supplement our present exercise drills. Let us not, however, make claims for them which are not justified. Perhaps even more important than Isometric Contraction drills are the intermediary contraction drills.

You may be righter than others." In fact there must be a lot that is right about the Counsilman form of training, repetitions with Isometric or not. No one knows everything about Functional Isometric Contraction, a lot of experimentation and research is going on, new facts will constantly emerge. We do not think that we know everything either, so we have an open mind and are constantly seeking ways and means to find the best way. Jim wrote in his article, "as it is commonly practiced today, the Isometric contraction can only develop strength and muscle size." Jim is trying to build endurance as well as strength Isometrically.

At this stage of our careers, we believe that Functional Isometric Contraction is the best and fastest way to build strength. We believe that it builds an excellent form of endurance too, for when a man becomes stronger it is much easier to perform work with this added strength, just as we cited before that a car built to be capable of one hundred miles per hour can tour at 50 miles an hour easily, and using only a part of it's power.

If a car were built to go only 50 miles per hour, 50 miles per hour would be it's capacity, and it would run these fifty miles under considerable strain.

As we have said elsewhere in this volume, when demands are made upon the body, when the muscles are overloaded, it is nature's way to meet these demands, to meet these overloads. This requires more strength building and more sustaining material which is carried by the blood, so the heart works, the lungs work, the arteries, veins and capillaries carry more blood, all of which are a part of endurance.

But regardless of which are the best ways to build strength, and which the best way to build endurance, it is wise to include in a training program these three excellent forms of training, as Jim Counsilman has done. He has given them equal time in his dry land program. Isometric Contraction, Muscle contraction with movement, and Muscle Contraction with Measured movement.

This book has contained considerable about the other forms of training, lets cover a little more of the Muscle Contraction with Limited Movement which is certainly one of the best, if not the very best form of training.

Is Muscle Contraction with Measured Movement, the Superior Form of Training?

WE should give some thought to the closing sentence in Jim Counsilman's article. "Perhaps even more important than Isometric Contraction drills are the Intermediary drills (Muscle Contraction with Measured Movement) Jim Counsilman has had a great deal of training experience, we have known him for many years, he may be right in believing that Muscle Contraction with Measured Movement is the best form of training. Or his belief in the superiority of the later phase of training, may be influenced by the fact that he is performing his Isometric exercises contrary to the beliefs of many enthusiasts in the field.

In talking to Jim recently at the Quadrennial Olympic meetings in Washington, I stated that his conception of high Isometric repetitions was contrary to the information we have. Our researches say that a muscle can grow only so fast, that it can be stimulated enough by a 12 second contraction that it can not grow any faster, can not grow any more that day. That two or three contractions, or ten, or even more will not speed it's growth in strength and muscles. Jim Counsilman's charges are taught to complete 10-20-30 Isometric contractions. I said to Jim Counsilman, "but who am I, to argue that you may be wrong with your conception of Isometric training, after all, your swimmers recently set five world's records?

ONLY A FRACTION OF A SECOND

In illustrating the reason for the more rapid strength building effect of Functional Isometric Contraction we brought out the point that the weight resistance at the hardest part of the contraction in any exercise is but a fraction of a second. The most difficult part in a curl or press is the start, this requires about 80% of the strength, the remaining 20% is sort of a carry through to continue the momentum of the rising barbell. If the weight is light enough to pass the "sticking point" it goes on it's way and in a matter of two to three seconds completes it's trajectory of the full movement.

The sticking point of the press is about top of head weight, the sticking point of the curl is when the arms are about at right angles. With Functional Isometric Contraction the maximum pressure is applied for a full 12 seconds at the hardest or sticking point. It is natural that superior developmental results would be obtained with this Functional Isometric Contraction System. That is why we utilize the Functional Isometric Contraction principle as we do.

In the usual exercise, not taking the slowly, slowly, advice we have offered for so many years, yet with reasonable steadiness there would be 2 seconds up and 2 down for a curl or press, 4 seconds in all. If the weight of the press were heavy, it would be lowered in as little as one second. Therefore it is evident if you follow the Muscle Contraction With Measured Movement with 10 seconds up and 10 seconds down, you would have a normal exercise period of 5 times as long as the usual 4 seconds. It is natural that you would obtain better results. And if you are one of those who literally drop the weight to the starting position, you might obtain as much as 7 times as much benefit.

10 SECONDS UP—10 SECONDS DOWN—
10 SECONDS REST

Take a weight about half of that you have been using, this is only to start, for you will not develop great strength and large muscles without using substantial resistance. You need a clock

with a big second hand on the wall so you can gauge or measure your movements.

It would be a good plan to start with the six simple weight training exercises of the Bob Hoffman Daily Dozen.

1. Two hands curl.
2. Upright Rowing Motion.
3. Two Hands Press.
4. Bent Over Rowing Motion.
5. Flat Back Dead Weight Lift.
6. Regular Deep Knee Bend.

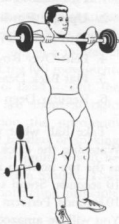
Take half what you have been using in the two hands curl. Watching the clock, curl the weight slowly so that it will arrive at the top position in 10 seconds, lower to the starting position in 10 seconds. Stand still or rest with the bell across your thighs for 10 seconds. Perform the same movement for 6 repetitions if you can. You will be amazed at how much harder this is than in training the usual way, and as you get out of exercise what you put into it, soon you will be surprised to see your physical improvement. In the upright rowing motion, as with the two hands curl, take half of the poundage you have been using. In 10 seconds, pull the weight from the starting position across thighs, to the chin height or mouth level height, lower the weight in 10 seconds, rest 10, and repeat the entire 30 second exercise and rest period, 6 times.

Take half of your usual poundage in the two hands press, press from chest to arms length overhead in 10 seconds, lower in 10 seconds, rest 10 seconds and as you have been doing in other exercises, complete your 6 repetitions. Use a similar system with the bent over rowing motion, the regular dead weight lift, the regular deep knee bend.

Only you will know how you feel, only you will know what weight you can use the next time, but everyone will soon see the exceptional results you gain from this result producing form of training.



Curl



Pull



Press

Three of the Bob Hoffman Daily Dozen Exercises with weights. A short exercise course which serves well with Functional Isometric Contraction Training.



Row

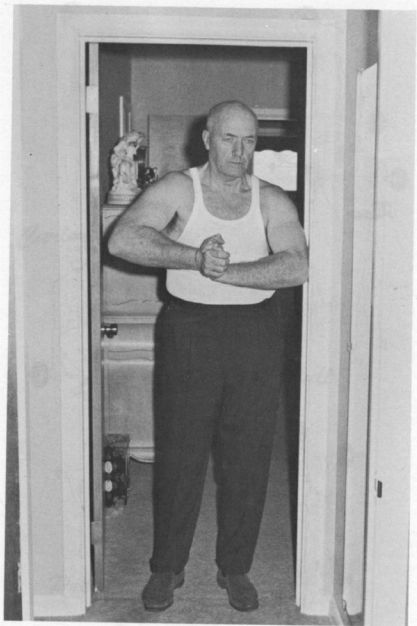


Lift



Squat

The second three, the heavier exercises of the Bob Hoffman Daily Dozen.



The author of this book exercises when he can, where he can, and with anything he can find to push or pull against. Here he is working in a doorway.

You can and you should use this method of training with all of your exercise programs. If you are a weight lifter, be doubly sure that you practice a considerable amount of your exercises with this Measured Movement system. You can use it with your Muscle Contraction with Unlimited Movement, 10 seconds up and 10 down usually being the correct procedure. In your Muscle Contraction with Limited movement, you may find that 10 seconds up and 10 down is too long a period for such a short range of movement. In this event you can use 5 up and 5 down and 5 for rest. If the weight is very heavy, be satisfied with 5 seconds up and 5 down, 5 seconds rest.

Remember, when you are practicing Muscle Contraction with Limited Movement, and you are developing the strength of the Prime Mover Muscles with the "three threes," three presses, three pulls and three bends, you should do a fair amount of these exercises working between the pins to cover each definite range of movement. By practicing in this manner, you will develop all the muscles and strengthen all of the positions.

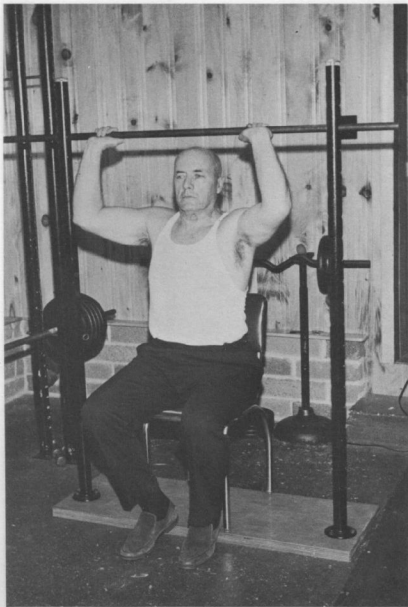
While it has been said that Muscle Contraction With Measured Movement is similar to a series of Isometric contractions, this is not quite correct, for the weight does not stop, it is not at any given point for a full second, which would not qualify it as an Isometric exercise. With a series of Isometric contractions you would jerk from position to position and remain at each point for not less than 6 seconds, so your Isometric Contraction exercise would have to be of 24 to 30 seconds duration not counting resting time. So it seems to me that this method of training is simply Muscle Contraction with Measured Movement, not a series of Functional Isometric Contractions as some would have us believe.

It was suggested that beginners should perform 6 repetitions of the Muscle Contraction with Limited Movement, and hold the resistance for 6 seconds after 6 movements, to accustom the muscles to a maximum Isometric Contraction. We are now suggesting that advanced men as well as beginners work between the pins of the Power Rack for each position of limited movement. These limited movements have no direct relation to the holding positions for

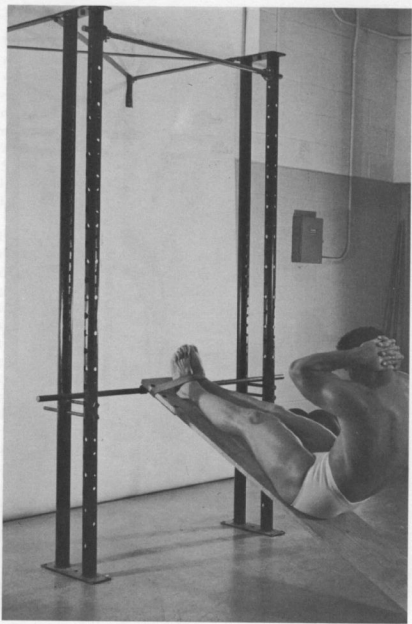
Functional Isometric Contraction. You simply desire to work the muscles over a limited range so that no spot will be missed, and with Measured Movement in particular, every spot will be strengthened to the maximum. There is no objection to having a little overlapping in practicing these limited movements. The limited movements are as follows. 1. Press from chest to top of head level. 2. From eye level to a position at least 6 inches above the head. 3. From top of head to extended arms length overhead. Your holding positions would be chin level, top of head level, 3 inches below lockout.

With the Pull, No. 4 exercise would range from the dead weight lift position to a position of legs straight, arms straight, bar across thighs, body leaning somewhat back. The 2nd pull position, Exercise No. 5, should be from the flat foot, arms, legs, back straight position, pulling up to the height of a wide belt position, just about at the navel, with arms slightly bent, raised on toes, shoulders shrugged, head back. No. 6 position is with the bar pulled from the flat foot, bar held at top of belt position, to a raised on toes position with the bar at upper chest level. Exercise No. 7, the below parallel or full squat, from full squat to a few inches above parallel. Exercise No 8, from parallel to halfway to the erect position. No. 9, from half way to the erect position, to the legs straight position. We have offered you the usual 9 limited movements of the three prime mover exercises, three presses, three pulls and three bends. Work over each of the ranges we have described with at least 5 seconds up and 5 down, rest 5 for each, perform at least 6 complete movements.

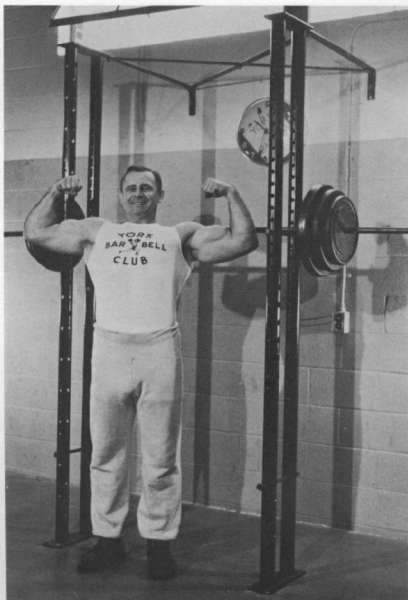
Also you can practice many other limited movements in the host of exercises we have offered you. Make this excellent form of training a regular part of your training, it will pay you.



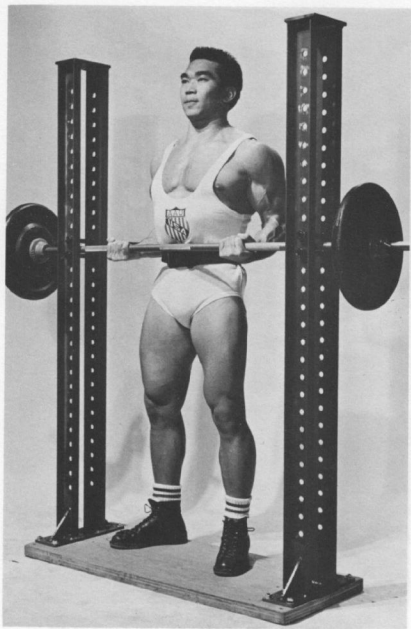
A corner of the gym in Bob Hoffman's home. In the background is shown the first Hoffman Isometric-Isotonic Super Power Rack. In this photo the author of this book illustrates the sitting press with the popular isometric portable power rack.



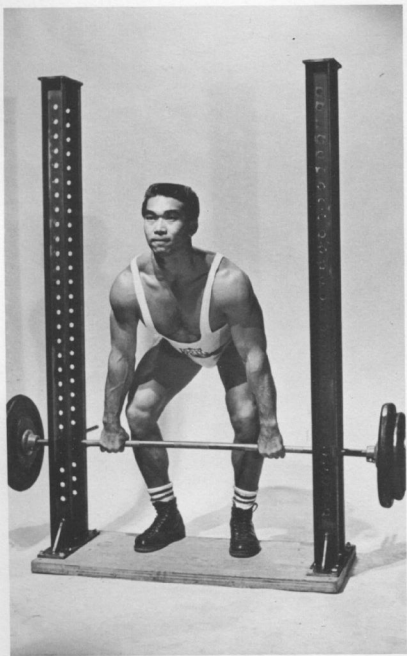
Bill March working with the bench which can be used as a flat or press bench, an inclined bench or an abdominal board.



Steve Stanko, the first man in the world to total over 1000 (1940) 310 Press, 310 Snatch, 382 Clean and Jerk. After injuring his legs, turned body builder, won Mr. America title, and was the first Mr. Universe (1947).



Tommy Kono, who set 26 world's records during his career has become an enthusiastic devotee of Hoffman Super Power rack Training With Weights.





about the author



BOB HOFFMAN, one of the most dedicated men in America is the president of the foundation which bears his name. He is widely known as the Father of American Weight Lifting, often called "Mr. Physical Fitness" he has spent a lifetime, more than a half century in the quest for strength and super health. He has done well and is a leading contender for the title, World's Healthiest Man. He has not had even a simple headache for more than fifty years, and has not lost a single hour from school, work, athletics, or anything he wanted to do during that time, due to illness. He won in his competitive days more than 600 athletic trophies, for competing in a wide variety of sports. He has been United States champion both as an amateur and as a professional, he has been world's champion. For ten years he was the one hand lifting champion of the world, and on his 50th birthday, he broke the world record for men of his age, by 56-1/2 pounds, in the one arm lift overhead.

For a lifetime, Bob Hoffman has been interested in athletics, in physical training, in physical fitness, in any means which will lead to better health more strength and greater physical ability. The Bob Hoffman Foundation is a step forward, a means of enlarging the work to which Bob Hoffman has so long been dedicated. Like other members of the Bob Hoffman Foundation, our president receives no remuneration for his work. He is proud of the fact that although he has been publisher and editor in chief of *Strength & Health*, the *Physical Fitness Magazine*, for 30 years, that he has been the world's leading physical director for thirty years, he has not received a single cent of remuneration for his efforts. He has sufficient for his moderate needs, and does this work because he believes it is necessary for the present and future of America. Bob Hoffman is a patriot, (one who loves and is devoted to his country and its welfare). He proved his patriotism in the first world war, was a company commander in the Argonne forest. Was twice wounded and was awarded 11 decorations for valor. *He was so supernaturally lucky to survive the intense fighting, that he feels he was saved for a purpose. He is trying to fulfill that purpose by doing everything humanly possible to help others become stronger and healthier, happier and more successful. A nation is only as strong as its people, its strength is the sum total of its people. Stronger people make a stronger nation, a nation which will continue to be the world's greatest.*

In 1937 Bob Hoffman wrote his first big book, a 500 page volume called "How to be Strong, Healthy and Happy". It was a good book then, it is a better book now, as so many of the precepts it taught have been accepted by the world, particularly the medical world. Since that time, Bob Hoffman has written 21 other books, many training courses which have made the Bob Hoffman name well and favorably known over all the world. Many millions of people have read these books, followed the Hoffman training courses to their great advantage.